

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

VOL. XLIX. No. 10.
WEEKLY.

BALTIMORE, MARCH 22, 1906.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS' RECORD PUBLISHING CO.
BALTIMORE.

RICHARD H. EDMONDS, President.
THOMAS P. GRASTY, Vice-President.
FRANK GOULD, Secretary.
VICTOR H. POWER, Treasurer.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Staff Correspondent.

Branch Offices:

New York—52 Broadway.
Boston—170 Summer Street.
Chicago—505 Fisher Building.

Charleston, W. Va.—ALBERT PHENIS,
Special Correspondent for West Virginia,
Kentucky and Southwest Virginia.

Subscription, - - - - - \$4 a year
(payable in advance) to United States,
Canada, Mexico, Cuba, Porto Rico, Hawaii
and the Philippines.
To Foreign Countries in the Postal Union,
- - - - - \$6.50 a year.

BALTIMORE, MARCH 22, 1906.

JOSEPH BUCKNER KILLEBREW.

One of the South's reliances in its time of strain and stress a generation ago, one of its wisest and most practical leaders in its time of rehabilitation and one of its sanest and farseeing counselors as it faced again the sunrise now rests. In the knowledge of tasks well done and in the enjoyment of honors well earned in their accomplishment, respected, admired and loved by everybody who knew him, Joseph Buckner Killebrew closed his eyes upon the world last Saturday. His life of nearly 75 years was well rounded out in devotion to his family and in service to his country. That service was rendered by a man of remarkable mental and physical vigor, whose work was sustained upon its unusually high plane until the last illness came, less than a month ago. The effects of his life-work, of incalculable value, have not reached their limit. They will be felt for good long after their origin may be directly traced.

A native of Tennessee, a graduate of the University of North Carolina, a successful practitioner at the bar, his inclinations were always toward agriculture, in which, combining scientific training and broad, practical experience, he had been a successful enthusiast for more than 40 years, in spite of the many calls upon his time and energy in divers other pursuits. He was singularly gifted with his pen, and through its use he won distinction of the true kind, unsurpassed by that of any other Southern man of his day. With his rare equipment he came to the front in Tennessee at a time when that State, in common with the South, was calling for its best men, and his all-around abilities soon demonstrated that

not in vain had he answered the call. Becoming in 1871 the agricultural editor of what was then the leading daily newspaper of Nashville, Tenn., his writings commanded such wide attention throughout the country that a number of wealthy men of the State founded the *Rural Sun* and persuaded him to become its editor. He was already superintendent of public instruction in Tennessee and acting agent for the State of the Peabody fund, both of which positions he held for four years, canvassing the State vigorously in behalf of improved educational methods and contributing materially to the organization of the general public-school system. He was already, too, State commissioner of agriculture and mines. In all of these offices he exerted himself to his best in the main upon pioneer lines, and he wrought so efficiently that his State is still enjoying the material results of his labors. At one time they became too much even for him, and he was obliged to withdraw from his editorial duties that had made the *Rural Sun* a standard agricultural paper, still remembered by thousands of Southern farmers. He went to his farm for a few months' rest, but resuming his work as commissioner of agriculture, maintained it until 1881, in the meantime publishing a number of works, now authoritative, on the resources of Tennessee—"Grasses of Tennessee," "Sheep Husbandry," "Wheat Culture," "Geology of Tennessee" and "Tobacco Culture." His standing as an authority led to his selection by the superintendent of the 1880 census to investigate and report on the culture and curing of tobacco in the United States, and his report of more than 300 pages was afterward published by the census as a separate volume, the standard in this country and abroad. Subsequently was published another volume on tobacco by Colonel Killebrew, which is regarded as the greatest work on the subject that has ever appeared. He was also one of the editors of the *Standard Dictionary* and the author of many pamphlets, magazine and encyclopedia articles bearing upon Southern industrial, agricultural, commercial, educational and social questions. The readiness and lucidity of his writings had complement in the vigor and straightforwardness of his speeches, and his eloquence was the eloquence of information and deep conviction, with the inspiration of devotion to the upbuilding of his section, whether he appeared as editor, as educator, as in charge of the immigration and industrial work for the Nashville, Chattanooga & St. Louis Railway, as special agent of the National Department of Agriculture in its good-roads campaign, or as a writer appealing to a wide intelligence, whatever the subject he might discuss.

For many years Colonel Killebrew had been a regular contributor to the columns of the *MANUFACTURERS' RECORD*, and for the past eight years he was a member of the editorial staff of the *Southern Farm Magazine*. In these publications have appeared many of the

most notable products of his pen, none of them without permanent value. Besides these contributions, the *MANUFACTURERS' RECORD* has had the benefit of his timely and practical judgment on different lines, and has had special opportunities to appreciate the value of the high estimate of Colonel Killebrew's career—a career happily including his own satisfaction in knowing that his work had been a success and had been given time and again the grateful recognition that it deserved.

He was the type of a breed of men of such sturdy American stock that they could come out of the trials and tribulations of the South of 30 or 40 years ago only with honor to themselves and to the advantage of their country. They faced a stupendous emergency fearlessly and hopefully. Their faith in their section and their people was not misplaced. Future generations will arise to call them blessed. Easily the first among equals will be the name of Joseph Buckner Killebrew.

COTTON.

Through the consular service of the United States continue to seep reports of alleged success of European countries in growing cotton. All such reports have more or less reference to the attitude of European manufacturers toward the American cotton-growers; the assumption that the growers, without regard to themselves, should furnish the manufacturers all the cotton they require at the prices fixed by the latter. Such one-sided philosophy has support in the cotton markets from individuals who never actually handle a bale of cotton, and who in the past have fattened themselves in speculation upon the necessities of the growers. To that class may usually be traced reports at vital periods in the cotton season that there is to be a great enlargement in cotton acreage on one hand or on the other; that the crop is far beyond conservative estimates. Just at present is the time for talk of increase in acreage, not unaccompanied by suggestions about the necessity for such an increase. But the talk does not carry as much weight as it used to do, and the growers are no longer thrown into panic by reports about success in cotton-growing in new fields, even though such reports may have the semblance of authority, coming through government channels. The past two years have taught the growers to know their own strength and have tended to steel them against the once normal inclination to plant a greater acreage in a season following good prices. There are those, however, who might be unable to learn wisdom from experience, or who might in inexperience fail to perceive that what is unbusinesslike in every other line of human endeavor is also unbusinesslike in cotton-growing, and who, consequently, might be tempted to plant more cotton than they can profitably cultivate and market. It begins to appear that any mistake made by such shortsighted growers, threatening to undo

and make of no effect the splendid results of co-operation during the past year of Southern bankers, growers and others interested in cotton under wise and practical leadership, is likely to be corrected, only to the detriment of the shortsighted ones.

A dispatch from Chicago states that the demand for labor in all parts of the West has almost reached famine intensity, and that from St. Louis, Kansas City and San Francisco, particularly, are coming urgent calls for mechanics and unskilled laborers that cannot be met. It is calculated that at least 25,000 additional men are needed now in building operations in the Northwest and Southwest, and that before mid-summer 50,000 men will be called for in railroad building. This scarcity has been felt, too, for many months in the South, and as railroad construction, building operations and other such operations pay higher wages than farm work, a shortage of the latter may reasonably be looked for. That is a factor which must be considered in all calculations about the acreage in cotton this season and the size of the crop.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 62, 63 and 64.

FOR PRESIDENT—STUYVESANT FISH.

Nearly five years ago it was the pleasure of the *MANUFACTURERS' RECORD* to dwell at some length upon the desirability of the selection of Mr. Stuyvesant Fish as a candidate of the substantial interests of the North, the South, the East and the West for President of the United States. Developments since then have but reinforced the arguments upon which the suggestion was based, and, in the light of the instinctive turning to him as a shelter-man by a million men and women representing the thrifty, producing and conservative elements of the country, a renewal of the suggestion is more than warranted. It is demanded.

From the time when, a youth of 20 years, he entered the offices of the Illinois Central Railroad as a clerk, to the present moment, when, in the prime of life, rich in experience gained in finance, transportation, commerce and industry, he commands the respect and confidence of his fellow-Americans in all parts of the country, he has moved modestly and quietly through a career, testing in every way his mind and heart as big as his body, with a profound sense of the responsibilities that have accumulated for him and with a keen determination to do his duty in whatever state of life to which he has been called.

Though identified chiefly in the public mind with the presidency for the past 18 or 19 years of the Illinois Central Railroad, which under his administration has become a leading factor in the flow of commerce between the

Northwest and the Gulf, and an energizing influence in the agricultural and industrial development of the whole Mississippi valley, Stuyvesant Fish is much more than a great railroad executive and financier. He is a statesman of magnificent equipment. Coming of New York stock, with high standing and influential connections in the financial center of the country, and long associated with many of the progressive movements in the broad stretch of territory between New Orleans and Chicago and stretching beyond to Nebraska served by his railroad and its connections, the strong personality of the man has been felt for the good of the immense territory drained by the Mississippi and its tributaries, a territory becoming the seat of the commercial and political power of the country. Unassuming, but tenacious of purpose, interesting himself as much in the personal comfort of the employees of the railroad as in the welfare of its stockholders, and as much in the progress of the many communities touched by his lines as in the general prosperity of the system, he has gained a vast store of knowledge of many kinds of people and of various far-reaching interests, and is using that knowledge for the benefit of his country, full of faith in its institutions and its people.

Suggestion of him for the Presidency of the United States may not appeal to a class conjuring with party names that have lost all their historic significance, nor may it have weight at once with folks who give heed to the cajolery systematically attempted two or three years in advance of a presidential campaign that this section or that section should assert itself and demand the nomination for one of its citizens. But the men of the country who are tired of so-called party politics messed in almost indistinguishable confusion, and who feel that it is time for a return to fundamental principles in government, recognize in Stuyvesant Fish the means for relief from future ills.

Of every task to which he has set his hand Stuyvesant Fish has made a success; not a success, however, appealing to the galleries. There is nothing of the spectacular about him. He does not know how to play the crowd or to play to it, and if he did know how, he would not play. He is an absolutely sincere man.

There is nothing of the weathercock about him. He is a man of deep convictions resting upon knowledge and reason, and he acts according to his convictions. He countenances no compromise with truth, and his opinions are not swayed by circumstances, but are fixed by what he believes to be right.

He is not given to much talking or to much writing. But what he may say or may write is not addressed to the superficial mind or to the fleeting thing called public opinion, but to the sober judgment of thinking men like himself, with the aim of furthering some policy for the benefit of humanity. His deeds square with his words.

He is not a politician. The tricks whereby the means are justified by the end, whereby vice is permitted to parade in the garments of virtue, whereby brilliancy of achievement is expected to dazzle the eyes against questionable procedure, and whereby forgetfulness of the disgrace of one campaign would be wooed by using the exposé of the disgrace to further another campaign under the same auspices are foreign to his nature.

He is no seeker for distinction. To assume the role of a hero would mean

absurdity for him. Sounding brass and tinkling cymbals are none of his. Having decided upon a course after careful consideration of all questions connected with it, he moves to his goal without pretense and without clamour and seeks no goal, personal or public, involving in its winning injustice to his fellows or the use of the mere brute power of mind, muscle or money against a weaker one.

His sole inspiration is duty. As a lad he recognized his duty to himself. Born to wealth and position, he was not content to drift along in ease and luxury, but went to work just as any other young man of good parts, and he has been working ever since. Winning by his own merits positions of honor and trust, he has recognized his duty to his fellows, and that fact has been eminently manifest in his adherence to the policy laid down by him that he would administer the affairs of the Illinois Central Railroad in the interests of all its owners, the stockholders. Devotion to duty would dominate him in the Presidency of the United States. With him honoring that great office the affairs of the people of this country would surely and safely be administered for the people by a man singularly free from personal vanity and self-seeking ambition, a sane, broad-gauge, conservative American.

RAILROADS SEEKING THE GULF COAST.

"On to the Gulf!" would seem to be the slogan in many railroad enterprises in the South today. Since the United States gave assurance that a Panama canal would be constructed the owners of our existing lines which reach ports on the Gulf of Mexico have been stimulated to improve their facilities, and the projectors of new railways are now inspired to prepare their plans also with a view toward handling freight destined for a marine route via the great interoceanic waterway.

The most notable of these new projects is the extension of the Florida East Coast Railway to Key West, now conspicuous chiefly because of its daring engineering and construction which challenge wind and wave, although the future will probably find it more notable in facilities for reaching Havana and the Isthmian canal. The starting of this work, now well under way, has been followed by divers announcements of schemes to build other lines to points on the Gulf, none, of course, so far seaward as Key West, but each and every one presenting inducements more or less inviting to persuade railroad construction thither. But there are also other transportation plans looking Gulfward and which are not yet carried out that were conceived and incorporated before the extension of the Flagler line began. Thus the advantages of the tidewater outlet for railroad freights via the Gulf of Mexico were early realized, and the number of new railroad plans based upon that realization testifies to its value, which will be greater than ever on the completion of the canal.

One of the most recent projects for a line of any magnitude to the Gulf is that of the Augusta & Florida Railroad Co., which proposes to connect several existing small railroads in Georgia by building links between them and thus secure a very direct and advantageous route to tide on the Gulf. Still others are those of the Birmingham, Columbus & St. Andrews Bay Railway and of the Atlanta & Gulf Railroad, both of which are building lines, one to connect the great iron center of Alabama with the

coast and the other to give the capital of Georgia a similar connection. At Pensacola, Fla., there are two or three projects, one for making a connection from the Central of Georgia and another for building a line from Memphis. In Alabama there are still other plans conceived for building from Birmingham to the Gulf, and in Mississippi several companies have in view southern outlets to the sea. One of the progressive companies in the latter State is the Gulf & Ship Island Railroad, which already has facilities at Gulfport of no small capacity and which is extending its railroad lines. The Mobile, Jackson & Kansas City Railroad, which has lately completed its road northward to Middleton, Tenn., is also governed by an enterprising spirit, and may be expected to build other extensions. Its port, as indicated by the name of the company, is Mobile. The Mississippi Central is also extending. In Louisiana the line of the Louisiana Railway & Navigation Co. is fast approaching New Orleans, and upon its completion another railroad there will have attained a Gulf outlet. The Kansas City Southern is also said to be reaching out quietly to enter the same city, and the construction of a new line, which is recognized as a branch for that company, is already under way. The New Orleans Great Northern is another important project. Moreover, the Colorado Southern, New Orleans & Pacific Railway, now building between De Quincy, La., and Baton Rouge, is authorized to build a branch directly southwards to a point on the Louisiana Gulf coast. Other companies in Arkansas as well as in Louisiana which propose to build lines likewise aspire to reach tidewater through the latter State. In Texas it is Port Arthur and Galveston which the new roads mostly endeavor to reach. In fact, the St. Louis, Brownsville & Mexico Railway, or Gulf Coast Route, has just completed its extension to Galveston, and there are numerous projects incorporated which aim to reach tide at some point or other, one of which has in contemplation, according to recent announcements, a line from Winnipeg, Manitoba, to the Texas coast.

It goes without saying that not a few of the many incorporations which have been made will never carry out in their entirety all the plans declared in their charters, but sufficient will be fulfilled to largely increase railroad transportation facilities between the interior of the country and the Gulf ports, the business of which has increased so wonderfully within the last 10 years and which continues to grow with surprising rapidity.

FUEL FROM THE FARM.

Farms are furnishing practically all food of the world. But they are destined to become of even greater importance as sources of supply of fuel, light and power. In a recent hearing at Washington Secretary Wilson of the Department of Agriculture, referring to the possibility of technical and commercial skill utilizing the immense source of energy on the farms now largely wasted, said:

Our coal mines are definite quantities, and are being rapidly used up. Our forests are disappearing, and many of them have disappeared. The same is true of the sources of mineral oil and natural gas. In the future—it may be some time in the future—the time will certainly come when the world will have to look to agriculture for the production of its fuel, its light and its motive power. It seems to me that through the medium of alcohol agriculture can furnish in the most convenient form for the use of man this absolutely necessary source of supply. I believe, therefore, that the utilization of alco-

hol in the arts and industries, under such restrictions as would safeguard the fiscal rights of the United States government, would present not only a great stimulus to manufactures, but a great benefit to agriculture.

These words were addressed to a committee of Congress having under consideration bills relating to the removal of the tax upon alcohol to be used for industrial purposes. The general proposition is that such alcohol be denatured by proper treatment so as to be unfit for drinking purposes. It is favored by the farming interests as well as by the manufacturing, and about the only obstacle in the way of its becoming effective seems to be what Secretary Wilson refers to as the safeguarding of the fiscal rights of the government. That may be overcome in time, but meanwhile the demand for denatured alcohol derived from such farm products as corn, wheat, potatoes, cassava, sugar-cane, sugar-beets and their waste products will become more and more pressing as farmers and manufacturers in greater numbers come to recognize the advantages of the material. To the farmer the free use of alcohol means a cheap and safe means for lighting and heating and an expansion in the use of labor-saving devices on the farm with cheap motive power. It also means an enormous widening of the markets for his products, to be used directly in industrial operations. Already ethyl alcohol is used in commercial chemistry in the manufacture of hats, artificial silk, picture frames and moldings, polished metal goods, celluloid, smokeless powder, fulminate of mercury, the explosive material percussion caps, photographic supplies, electric generators and motors, lead pencils, watches and clocks, chloroform, furniture, fusel oil, transparent soaps and a variety of other articles. With the removal of the tax there would be undoubtedly an expansion in practically all of these industries, and another industry which has assumed large proportions in the past 10 years, the manufacture of automobiles, power boats and small stationary internal-combustion engines, would be given a great impetus. Bearing upon this is the statement made by Prof. Elihu Thompson, the eminent scientist, as follows:

There are some facts which are not generally known which ought to be known, namely, that alcohol is produced and sold in Cuba for from 12 to 15 cents per gallon, and that it is an excellent fuel, as I have found by tests, for the running of engines. At 15 cents or 20 cents a gallon I think it would eventually displace gasoline. Burned in similar engines it produces no smoke or soot nor disagreeable odor. Since alcohol mixes with water freely, a fire started with alcohol is one of the easiest to extinguish. This is not the case with gasoline or even kerosene, both of which float on water and continue burning. To my mind the farmer should be the most deeply interested in the production and use of alcohol for industrial purposes, and especially in its use for automobile and motor-boat propulsion. It would give the farmer a sort of a balance wheel. A crop that is not easily marketable, or a crop partly spoiled, be it fruit, grain or other product, could be made the source of cheap alcohol for industrial purposes. Alcohol can be stored in tanks for an indefinite period without deterioration. Whether denatured or not, as I have stated above, at a reasonable price it is the natural fuel for automobiles, inasmuch as the amount which can be produced is practically unlimited, whereas with the increasing use of gasoline the price is sure to rise.

As a matter of fact, arrangements have been made for tests this year of alcohol as motor fuel, and all users of motor vehicles, either for pleasure or for business, will await the results with interest. The tests will be of far-reaching importance as affecting not only the question of cheap fuel for motive power, not only the question of a

betterment of the farmer's condition, but also the question of an adequate supply of energy for heating, lighting and power in the future, not extremely remote. All of the questions seem to hang upon the price of the alcohol, and the tax at present upon the material must be recognized as limiting the possibilities of its advantageous use.

WHERE POPULATION GROWS.

The accuracy of an estimate that Oklahoma and Indian Territory have a combined population of 1,600,000 is questioned by the *New York Times*. It concedes that the growth of both Territories has been great, but it cannot believe that their joint population has more than doubled in six years. In the absence of authoritative figures for 1906 it may not be possible to prove that there has been such an expansion in the region which it is now proposed to erect into one State. But such a thing is quite probable. During the 10 years before 1900 the population of the Indian Territory more than doubled, increasing from 180,182 in 1890 to 392,060 in 1900, and the population of Oklahoma increased from 78,475 to 398,331. The increase in Oklahoma marked the beginning of the rush of population thitherward after its creation as a Territory in 1890, and the character of the movement, which has given every evidence of rapidly expanding since 1900, is indicated in the figures of the natiivities of the American-born white population in the Territories.

In 1900 of the 351,920 native white population in Oklahoma but 52,695 were natives of the Territory. The natiivities of the others were as follows: Alabama, 3119; Alaska, 6; Arizona, 61; Arkansas, 10,406; California, 451; Colorado, 1091; Connecticut, 200; Delaware, 68; District of Columbia, 36; Florida, 100; Georgia, 2464; Hawaii, 1; Idaho, 61; Illinois, 27,302; Indiana, 17,288; Indian Territory, 7692; Iowa, 19,213; Kansas, 58,256; Kentucky, 10,722; Louisiana, 567; Maine, 301; Maryland, 503; Massachusetts, 398; Michigan, 2561; Minnesota, 1129; Mississippi, 2367; Missouri, 46,305; Montana, 64; Nebraska, 8330; Nevada, 22; New Hampshire, 146; New Jersey, 426; New Mexico, 429; New York, 4024; North Carolina, 1816; North Dakota, 153; Ohio, 14,971; Oregon, 194; Pennsylvania, 5691; Rhode Island, 55; South Carolina, 412; South Dakota, 383; Tennessee, 9178; Texas, 30,456; Utah, 56; Vermont, 352; Virginia, 3270; Washington, 185; West Virginia, 1483; Wisconsin, 2639; Wyoming, 49; not specified, etc., 1773.

In 1900 of the 297,894 native white population in Indian Territory but 70,014 were natives of the Territory. The natiivities of the others were as follows: Alabama, 9001; Arizona, 20; Arkansas, 46,856; California, 212; Colorado, 304; Connecticut, 39; Delaware, 25; District of Columbia, 17; Florida, 110; Georgia, 7039; Idaho, 37; Illinois, 9115; Indiana, 5033; Iowa, 2665; Kansas, 8448; Kentucky, 8030; Louisiana, 1377; Maine, 79; Maryland, 131; Massachusetts, 88; Michigan, 482; Minnesota, 214; Mississippi, 8459; Missouri, 32,103; Montana, 27; Nebraska, 844; Nevada, 5; New Hampshire, 25; New Jersey, 88; New Mexico, 101; New York, 880; North Carolina, 2413; North Dakota, 24; Ohio, 3183; Oklahoma, 1756; Oregon, 86; Pennsylvania, 1355; Rhode Island, 14; South Carolina, 969; South Dakota, 76; Tennessee, 16,655; Texas, 55,350; Utah, 21; Vermont, 64; Virginia, 1798; Washington, 68; West Virginia, 452; Wisconsin, 466; Wyoming, 15; not specified, etc., 1261.

In the two Territories in the census year there were but 20,538 foreign-born. A glance at the preceding figures will show that John Sharp Williams of Mississippi was certainly correct in his statement in the House of Representatives the other day that the State of Oklahoma, when it shall be admitted, will contain a magnificent homogeneous population, representing every State and Territory in the Union capable of self-government, rich in energy, in resources, in capabilities, in all that goes to make up American citizenship.

Mr. J. F. Ellison, Cincinnati, Ohio, secretary and treasurer of the Executive Committee of the National Rivers and Harbors Congress, writes to the *MANUFACTURERS' RECORD* as follows:

The thanks of the Executive Committee of the National Rivers and Harbor Congress are due and are hereby rendered you for the most efficient aid you are giving to us in the way of favorable publicity concerning the object and purpose of this organization. You can be assured that it is appreciated to the fullest possible extent.

TEXAS IRON INDUSTRY.

Governor Lanham, after a careful inspection of the iron industry at Rusk, operated under the auspices of the Texas penitentiary system, is enthusiastic over the demonstration there that iron manufacturing in Texas can be profitably conducted. He found the furnace at Rusk running night and day producing 100 tons of pig-iron every 24 hours, and the pipe factory, the capacity of which is to be doubled within the next two or three months, producing 30 tons of pipe iron daily. The experiment of using coke instead of charcoal in smelting has proved, according to him, a great success, and he is convinced that the work of the Rusk furnace should cause the investment in Texas of large sums of money for the utilization of the iron ores of the eastern part of the State and of the Llano field. Railroad development in the Southwest and the exploitation of the coal fields in the Indian Territory are likely within a few years to solve the problem of fuel in iron-making in Texas, even if that State does not do so thoroughly on its own account in the meantime. Texas, too, may reasonably be expected to become an important factor in the distribution of iron products.

THE COTTON MOVEMENT.

In his report for March 16 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 197 days of the present season was 9,029,087 bales, a decrease under the same period last year of 1,075,016 bales; the exports were 4,869,956 bales, a decrease of 1,126,051 bales; the takings were, by Northern spinners, 1,806,352 bales, an increase of 193,704; by Southern spinners, 1,456,847 bales, an increase of 37,443 bales.

A March 20 bulletin of the census bureau places the crop of 1905, including linters, counting round as half bales and including 40,112 running bales not ginned, at 10,697,013. There were 279,836 round bales, 112,539 bales of Sea Island and 230,497 bales of linters. Reduced to a 500-pound basis, the crop was 10,777,510 bales, as compared with 13,697,954 bales in 1904 and 10,045,615 bales in 1903.

NULLIFYING PROGRESS.

A Baltimore city delegate in the general assembly of Maryland has introduced a bill for the encouragement of the establishment, growth and development of manufacturing industries in the city by granting exemption in whole or in part from city taxation of personal property belonging to manufacturers. Why talk of encouraging industries in Baltimore when

the general assembly of the State is capable of giving life to such economic and industrial monstrosities as the Dawkins bill?

GULFPORT.

The last harbor visited by the party of the congressional rivers and harbor committee on their trip last week to the South was Gulfport, the rapidly-developing Mississippi port, with its outward movement of lumber alone increasing from 19,000,000 feet in 31 vessels in 1902 to 207,000,000 feet in 249 vessels in 1905, according to Congressman Bowers' figures. There the visitors met Capt. J. T. Jones, the real creator of Gulfport, and learned what individual enterprise and energy had done in giving Mississippi a convenient exit by water to the world, and in connection with the Gulf & Ship Island Railroad had practically transformed the character of South Mississippi. They learned that Gulfport wants the co-operation of Congress in bettering its facilities, and in Gulfport's accomplishment of itself they could not have failed to recognize a most cogent argument in favor of liberality toward it on the part of Congress.

ENTERPRISE.

When the National Manufacturers' Association met at Atlanta last year with many capitalists of the country in attendance the Board of Trade of Columbus, Ga., with commendable enterprise, brought about 150 of the members for a day to view the manufacturing attainments and opportunities of their city. The results of such enterprise cannot always be clearly shown, but in the case of Columbus one result is directly traceable to the visit of the capitalists, the establishment at Columbus of a concern which has added to the population of the city 100 families, all of whom are prospering.

HAVANA'S ELECTRIC SERVICE.

Millions to Be Spent in Doubling the Present System.

[Special Cor. Manufacturers' Record.]
Havana, Cuba, March 15.

The Havana Electric Railway Co., Havana, Cuba, with 52 miles of existing lines in operation, contemplates improving and doubling its present system. One hundred and seventy cars are now in use. It is the intention of the company to erect modern car shops, equipped with every known mechanical device, including iron and hardwood turning machinery, power plant, the usual accessories and capacity of sufficient magnitude to meet the increasing requirements of a rapidly-developing city of 400,000 people for the next 10 years. The franchise for the operation and maintenance of the railroad, originally chartered under Spanish rule in 1858 as a horse-car system for 100 years, is recognized, and, according to existing statutes, will be maintained uninterruptedly. Shortly after the Spanish troops vacated Cuba a number of American, English and German capitalists strove vigorously each to secure control of the tramway and entire street-car system. Their efforts proved vain, the influence of one or more of the parties being sufficient to render nil the chances of any other single corporation securing absolute ownership. A compromise was effected, and American, English and other foreign capital combined now retains the ownership. American officials in the main operate the road, and the equipment for the most part is of American make. The real work of improvement and extension has been decided upon, and active steps have already been instituted to that end.

The Havana Central Railroad Co., a corporation akin to the Havana Electric Railway Co., having the same officers and controlled by the same financial interests,

has also decided upon inaugurating a sweep of improvements, including extensions and rolling stock additions, on a scale hitherto unknown in these parts.

Already \$10,000,000 have been expended on the building and improvements of the two systems as they now stand, but the cost of construction work, heavy pier masonry along the water-front, passenger and freight depots, line extension, electric-light plants, rolling stock and the thousand other incidental mechanical requirements recently decided upon will run up to another \$10,000,000, or \$20,000,000 in all.

The Havana Central Railroad Co. is now operating 120 miles, and work has already been commenced to increase the mileage of the road to the extent of another 150 miles. This particular railroad is operated in Havana province, the franchise or charter being unlimited with regard to time, the provisions of which, however, call for operations in Havana province exclusively. The equipment to be purchased will be of the heavy electric railroad class, standard freight cars, while workshops and power plants of adequate propelling capacity will be installed at suitable locations. The franchise also gives the company the exclusive privilege of constructing and operating electric-light plants for public use in any or all of the towns through which the road will pass. Already two electric illuminating plants have been constructed, one each at Regla and Guanabacoa, the General Electric system in each case. The company contemplates installing 10 more lighting plants along its line in the largest towns.

The grounds secured in Havana for the station adjoin the government arsenal and extend several hundred feet along the water-front. The passenger station will be 400x158 feet, concrete and steel in formation. The freighthouse and sheds will be 800x120 feet, the construction material used to be of steel and corrugated iron. It is intended that the entire work will be completed in one and a-half years. It is estimated that the harbor piers, three in number, and warehouses built adjoining same for the accommodation of import and export goods will cost \$1,000,000. Some construction material and machinery have already been purchased, but much more is needed. J. F. Greenwood is the general manager, and A. W. K. Billings, chief engineer, Havana, Cuba, with headquarters of the company 52 Broadway, New York city. JOHN BANNON.

LEAD AND ZINC ACTIVITY.

Increasing Output in Southwestern Missouri Fields.

[Special Cor. Manufacturers' Record.]
Carthage, Mo., March 17.

With unerring accuracy the figures on lead and zinc output in the Southwest Missouri mining district for the first 10 weeks of this year show the greatest activity in all its 30 years of life. The footings made today show an ore value of \$2,763,205.50 produced here in the 60 working days included. To compare this with the output during the first 10 weeks of last year would be manifestly unfair, because in 1905 the severe winter (severe for this climate) tied up the mines for three weeks the latter part of January. But compared with the average output of the first 10-week periods for five years back it is almost a 40 per cent. increase. Yet during all this time this district has accounted for its 80 per cent. of the world's output of lead. During these past years operators here have been content with an \$8,000,000 or \$9,000,000 annual production. Last year was the high-water mark, when the total value of lead and zinc mined in Jasper and surrounding counties was in round numbers \$14,000,000. With the start realized this year the

production will certainly reach \$16,000,000 or more.

The real activity here at present cannot be shown in unlying figures. There are scores of drill holes down on the stuff without a sign of a shaft, except on paper, to materialize as soon as the proper organization calls for mill construction. Of course, mills are being built, and it may here be said the new mills are generally of a larger capacity than heretofore. The largest mill in the district is one of 1000 tons daily capacity on the Golden Rod property. And it is understood that the Trinity Company has let a contract for a duplicate of the big Golden Rod mill to be placed on its land in the Duenweg district.

Incidentally, the Underwriters' Land Co., whose land is in the Webb City-Carterville district, upon which the Golden Rod mill stands, last week sold \$36,320 pounds of zinc and 435,350 pounds of lead, representing a clean-up of about \$35,000 in one week.

Reverting to the original topic, there are yet thousands of acres of land, with prospects just as good as any undrilled land, that can be leased here on a promise of 10 per cent. royalty on ores mined.

The methods which have obtained here throughout the life of this district are responsible for a criminal waste of mining opportunity. There are now two classes of men engaged. First there is the man with pick and shovel, who, tediously enough, prospected new ground. Men mining on a large scale usually invest in prospected ground. And so the process is a tardy one.

W. H. Standish, the Bismarck (N. D.) millionaire, following the circulation of a petition here, has just introduced in Congress a bill asking for the diversion of White river channel. Standish proposes to install on White river, 30 miles east of Carthage, an electric-power plant with a capacity capable of taking care of all the mines in the Southwest Missouri district. The proposed plant will be at Big Bend. The river at this point begins a detour of 25 miles and comes back to a point within one mile of the beginning. The river is a mountain stream, and is very swift. Mr. Standish proposes to dig the channel across this neck, and competent engineers say it will give a water-power in the class with Niagara. The project will cost nearly \$1,000,000, and the channel will be dug as soon as the bill is through the red tape in Washington.

The Mercantile Metal & Mining Co. has completed a new 150-ton concentrating plant on its 20-acre lease between Carthage and Webb City. The motive power will be derived from an engine run by natural gas.

F. W. Caulkins is erecting a modern 250-ton mill for the Rogers Mining Co., operating on the Quinn land, which adjoins the Mercantile Company's land, situated as above. The mine will be operated by electricity from the Spring River Power Co.

The Bash Development Co., which recently secured a lease on 40 acres near Midway, yesterday struck a body of ore which showed a thickness of 30 feet. If drill indications can be relied upon, it is one of the best strikes made this year.

ROY A. HOCKENSMITH.

WEST VIRGINIA ROADS.

State Organization Effected for Their Improvement.

[Special Cor. Manufacturers' Record.]
Wheeling, W. Va., March 17.

Significant impetus has been given to the cause of good roads in West Virginia at a two days' session of a good-roads convention which has just been held at Wheeling. The result of the convention is the organization of a State Good-Roads As-

sociation and a determination, as expressed in the resolutions passed and the constitution adopted, to vigorously proceed with the steps necessary to secure county and State action, and the construction of good roads as speedily as possible throughout all West Virginia.

It was resolved to hold a convention of the State Association in Charleston during the session of the legislature next January, at which time measures for securing the co-operation of the State will be prepared for presentation to the legislature. It is believed that the steps here taken will result in effective and continued efforts in the direction of establishing a definite system of good-roads construction in this State, the need of which is conceded to exist to an extent exceeded hardly anywhere.

The National Good-Roads Association inspired the convention just held, and is lending all possible aid to the work of arousing public sentiment throughout the State in favor of good-roads construction. The officers of the national organization were present throughout the convention, and the announced purpose is to devote particular attention to West Virginia for some time to come.

The officers are now and have been for some time going over the State working up local sentiment in favor of good roads, and it is announced by Wellington E. Loucks, the national good-roads organizer, that 21 out of the 55 counties of West Virginia have already been visited. It is expected that between now and the January meeting practically all of the counties of the State will have been visited, and it is the hope that a good organization may have been effected in all of these counties before the Charleston meeting in January.

The convention was the result of an address delivered in Wheeling about the middle of February by Mr. Loucks, and acting on his proposition the West Virginia Board of Trade, the Wheeling Board of Trade, the county commissioners of Ohio county and the Wheeling city council undertook to pay the expenses of the convention and arouse sentiment throughout the State in its behalf. The State and local boards of trade entered actively into the work and invitations to attend were sent out broadcast. All members of the legislature, judges, sheriffs, postmasters, clerks of county courts and others of local and State influence to the number of 5000 were invited to be present. The trunk-line railroads gave their co-operation by making a rate to the convention of one and one-third fare.

Although held at a time when there was raging the worst storm of snow, sleet and rain which has visited West Virginia during the season, which prevented a large number of farmers and others living off the main traveled roads from attending, yet there were present at the convention a large number of representative citizens from many parts of the State, and there was decided enthusiasm and determination manifested in the speeches that were made and in the expressions of the convention.

The officers of the State Association elected for the first year are: President, ex-State Senator James H. Stewart of Morgantown, director of the agricultural experiment station; secretary, James W. Wier of the Randolph Enterprise, Elkins; treasurer, H. C. Franzheim, president of the Wheeling Board of Trade and largely interested in banking and manufacturing enterprises; vice-presidents-at-large, W. H. Hearne, lawyer and manufacturer, of Wheeling; Samuel B. Montgomery, State senator, Tunnelton; Wm. B. Mathews, clerk Supreme Court, Charleston; Judge Reese Blizard, United States district attorney of Parkersburg, and Capt. John K. Thompson, formerly United States attor-

ney of the Northern district, of Putnam county. These officers constitute the executive committee of the association.

The first work to which the association will direct itself will be the promoting of county organizations in all of the counties of the State and the dissemination of practical information as to the best methods of road-building. An article in the constitution declares the association is organized to promote the interests of rural communities, of the county districts and State districts, and to co-operate with the railroad companies, newspapers, civic and improvement clubs, with the city and county officials, county courts and roads officials in order to secure permanent good roads and streets throughout the cities and counties of the State.

State-organization co-operation shall be with the governor, county and State officials, agricultural colleges and railroad companies, the press, associated and city; State and national legislatures and the public schools. One of the resolutions adopted proposes the employment of all the convict labor now under the control of State and county authority upon the work of building public roads. It recommends that county and municipal authorities put all tramps, vagrants and able-bodied paupers to work in the gravel pits and on the streets and roads of their respective localities.

A prominent resolution urged the rebuilding of the old national pike from Washington to St. Louis at government expense, its maintenance thereafter to be in charge of State or local authority. This was urged not only for the convenience it would provide for travel, but also as an object-lesson for all the public in the best methods of highway building and improvement. In order to properly bring this matter to the attention of Congress a strong committee was appointed to visit Washington and urge favorable action in the matter. This committee is composed of Gov. Wm. M. O. Dawson, Geo. E. Sturgiss, Morgantown; Frank Wells Clark, New Martinsville; Col. W. H. Moore, president of the association; W. E. Loucks, organizer of the National Good-Roads Association; Col. J. T. Rixey, member of National Good-Roads Association, and the executive committee of the West Virginia State Good-Roads Association.

Resolutions also declared in favor of the most improved scientific methods and the employment of competent engineers to give advice on all matters relating to roads and bridges, the establishing of a State bureau of highway, and the creation of the office of highway commissioner, such commissioner to be appointed by the governor and to be a trained and experienced engineer of high order, and a bill to provide for such bureau and commissioner will be one of the measures to be presented to the legislature when the convention occurs at Charleston in January.

Other resolutions favor the formation of civic clubs in every town and village for the purpose of keeping the streets clean, keeping them free from waste paper, having garbage promptly and hygienically disposed of, beautifying the streets and making grass plots and parks where possible, and planting trees along the highways. In this connection it was recommended that the civic clubs inculcate the practical observance of Arbor Day.

Summed up, it is the opinion of those who have followed the work of the convention here that a movement has been inaugurated which will result in great practical good, and will place West Virginia alongside of other States, such as Pennsylvania and Ohio, which are making notable progress in the direction of good-roads construction.

ALBERT PHENIS.

THE MACHINERY DEALERS.

Joint Meeting of Associations at St. Louis.

Probably the most sanguine promoters of the convention of the Southern Supply and Machinery Dealers' Association and the American Supply and Machinery Manufacturers' Association, which were held at St. Louis on March 14, 15 and 16, did not anticipate such a successful convention as resulted, especially as to the number present. There were about 200 in attendance as delegates, and the separate and joint conventions discussed subjects introduced by the members of both bodies. The suggestions of topics were left to be proposed at the meetings. During the past year the American Association has steadily enlarged its membership until now it has more than 75 members enrolled, and these include some of the most prominent supply manufacturers throughout the country. This membership does not include manufacturers of machine tools, as they have their own organization. An incident of the last year was that the American Association, which had limited its scope to the honorary members' or manufacturers' contingent of the Southern Dealers' Association, has increased its membership without regard to its former affiliations with the last-named organization. This move was prompted by the growth of the National Supply and Machinery Dealers' Association with its entrance into the field.

The Southern Supply and Machinery Dealers' Association, which outlined progressive plans at New Orleans several years ago and followed them out steadily under the presidency of Peter E. Blow, showed no marked progressiveness in those plans throughout the past year. These plans called for the billing of all goods sold directly by a manufacturer in any territory covered by the association through some dealer, being a member of the association. The national organization acts along different lines, as it simply advocates the adoption by manufacturers of the resale prices. It was expected that the American and the Southern associations at their executive sessions on Thursday would advance resolutions to be presented to each other for mutual consideration on March 15, but this feature did not materialize to any important extent.

The American Association held an executive session on the morning of March 15, and in the afternoon met in joint session with the Southern Association, at which there was a discussion of subjects introduced by the members of both bodies, but no formal program was followed. However, the discussions were along the line of forming closer relationship between the manufacturers and dealers.

There were many social features indulged in by the members during the several days, and a banquet closed the meetings on March 16.

The Southern Association includes in its membership many of the leading firms in Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Missouri, North Carolina, South Carolina, Tennessee, Texas, Virginia and West Virginia. Its members elected new officers as follows: J. A. Reichman of Memphis, Tenn., president; C. H. Briggs of Dallas, Texas, first vice-president; J. C. Miller of Huntington, W. Va., second vice-president, and Alvin Price of Norfolk, Va., treasurer. The executive committee is composed of Messrs. S. M. Price of Norfolk, Va.; J. S. Schofield of Macon, Ga.; Milner S. Price of Norfolk, Va., and Thos. G. Hyman of Newbern, N. C.

The American Supply and Manufacturers' Association elected Samuel Moyer of Cincinnati, Ohio, president; M. W. Mix of Indiana, first vice-president; C. F. Aaron of New York, second vice-president,

and Willard Parker of Pennsylvania, third vice-president. The membership of this association includes firms in New Hampshire, Massachusetts, New York, New Jersey, Pennsylvania, Illinois, Indiana, Ohio, Michigan, Wisconsin, Kentucky, Missouri, Maryland and South Carolina.

IN COAL CREEK BASIN.

Activity of Coal Operators and Lumbermen.

[Special Cor. Manufacturers' Record.]
Charleston, W. Va., March 19.

Tremendous as has been the development of West Virginia during the past two decades, and especially within the past five years, the valley of the Coal river seems destined to see a most remarkable transformation for even this wonderland within the next few years. While it has been known for many years that the Coal river country, with its practically undisturbed timber land and the great coal deposits which were to be found in the upper section, where the Spruce and Pond rivers unite to form the Little Coal, would some day be a very rich country, it was not until two years ago, when ex-Governor MacCorkle, the Messrs. Chilton and their associate, Hon. William C. Sproul of Chester, Pa., bought the great tracts at the head of the Little Coal and started the extension of the Coal River Railroad, that attention was drawn to this section as a great factor in the immediate developments in Southwestern West Virginia.

Within this short time it has become thoroughly established that the very heart of the great Kanawha coal field is to be found in the Spruce and Pond territory, and that here the Kanawha coals are to be found in their greatest purity and richness, all above the water-level, in even strata one above the other, and almost as regular as the jelly in a layer cake. The great broad-topped hills in that section, covered with a forest growth which now, with the advent of the railroad, commands more money than was paid for the land, coal, timber and all a few years ago, offer the most ideal mining conditions known, even in this section of easy operation. On the Spruce River Coal Land Co.'s 35,000-acre tract are five veins, and in places six, ranging from five to nine feet in thickness of pure coal, and all of the known veins of the Kanawha measures. The mountains rise fully 2000 feet from the level valleys, and the famous No. 2 Kanawha coal vein is just tittle height practically all over the tract, and shows a texture for transportation and a purity that is nowhere excelled. Above it, and within easy reach, are the other veins, but the No. 2 alone will bring work for thousands of miners for generations to come.

Now that the railroad is completed to Bull creek, on Big Coal river, and the 22-mile section from Sproul, the junction point where the two branches of the Coal River Railway diverge up the Big Coal and Little Coal valleys to Madison, the county-seat of Boone county, is about completed, a rush into this section of coal operators, timbermen and speculators has started, the like of which has not been seen even in West Virginia. Contracts for 22 miles additional of new railroad, running from Madison to the Spruce river lands, and five miles up either branch of the Spruce river through the lands of the Spruce Company, have been awarded, and the work will be practically finished this year, so that by next spring this great territory will be ready for full development. Already several of the largest operators in West Virginia and one or two from Pennsylvania have applied for leases on the Spruce river lands, and the company is surveying and laying off its big property. This land, acquired by the Sproul syndicate only two years ago at low prices,

has already trebled in value, and those who now, when the work has been done and the railroad assured, are going into this territory find, as usual, that the cream of it has been picked up by the long-headed folks who anticipated these conditions and then worked out the problem of transportation which has kept this great reserve coal and timber territory intact for all these years.

The railroad situation in the Coal river valley is becoming quite interesting. Last year the Chesapeake & Ohio took over from Senator Sproul, Governor MacCorkle and their associates the Coal River Railway, undertaking to do all the things these gentlemen had laid out to do in developing their lands, and contracting to build railroad extensions into the Spruce river territory at once, guaranteeing rates and transportation for the mineral and forest products. This contract is being very rapidly carried out, and last week President Stevens of the Chesapeake & Ohio, with his entire staff and Messrs. MacCorkle, Chilton and Sproul, the latter gentleman being still the active president of the Coal River road, were in the Coal valley and spent the day looking over the progress of the new work going on. The Chesapeake & Ohio is pushing vigorously to hold this territory for its traffic, realizing that it is soon to be one of the greatest feeders of the system. On top of this comes an apparent decision upon the part of the Deepwater-Tidewater line to use the Coal river valley as its means of egress to the Ohio river. Several corps of engineers are on the line, and a route through this valley and then down the Kanawha to Gallipolis seems settled upon by the Deepwater people. It is said that this route is more than 40 miles shorter than the Guyandotte line.

The presence of two railroads will, of course, accentuate the activity in the Coal river section, but the advent of one and the development of the richest undeveloped lands in the State is making lively times in that direction right now. Boone county, two years ago remote from the railroad in every direction, inaccessible and backward, is becoming a very active locality, and Madison, the county-seat, which is located at the junction of the Spruce and Pond forks, seems destined to be a very important town.

ALBERT PHENIS.

Fluor-spar Deposits of England.

I have just investigated the fluor-spar deposits of England with a view to determine their relation to the American industry, particularly their effect upon the Kentucky, Illinois and Tennessee fields, without going into a description of the English supply, which is not necessary. I am free to recommend the extension of the present American, and particularly Southern, output. The facts in the case are that what makes English fluor-spar cheap is that the shipments are made from the refuse dumps of the old lead mines, now abandoned, and further because this material is brought to America in ballast and at nominal freight rate. The local and American demand will consume these mill tailings (the lead mines are closed) within two years, and the material cannot be profitably exported after that to America. New process in the smelting of metals will increase the demand, and the South should and can supply it. The metallurgical world is impatient to learn of a sufficient, stable and cheap fluor-spar supply. Will the South supply this desideratum?

C. F. Z. C.

The Board of Trade of Knoxville, Tenn., will distribute 30,000 copies of a 24-page illustrated pamphlet showing the advantages of the city as a commercial and industrial center.

CEMENT POSSIBILITIES OF THE SOUTH—II.

By EDWIN C. ECKEL of the United States Geological Survey.

[Written for the Manufacturers' Record.]

In the last number of the MANUFACTURERS' RECORD the financial features of the Southern cement situation were discussed. This was done not only to serve as an introduction to a more detailed consideration of the cement possibilities of the individual States, but also to correct certain widespread but entirely erroneous ideas as to the value of deposits of cement materials. In the course of my field work in various portions of the United States I have found that many people believe that a large deposit of pure limestone or chalk or marl is of itself of enormous value. This is entirely untrue. Unless fuel, markets and transportation are accessible the best possible deposit of cement rock would be absolutely worthless. And even when the deposit is well located with regard to these factors of value, it must be borne in mind that cement is a manufactured product, and that the raw material constitutes but a small percentage of the value of the finished product. For these reasons it is not to be expected that the cement manufacturer can pay any exorbitant price for the land on which the deposit of limestone or clay is located. Assuming that the finished cement may cost him 70 cents per barrel at the mill, only about one-quarter cent of this is represented by the value of the raw material in the pit or quarry. The remaining 69¾ cents of value has been added during the process of quarrying, drying, grinding, burning and regrinding.

In regard to the fair price of land containing deposits of cement material I have said elsewhere ("Cements, Lime and Plaster," page 555):

"Much will depend on the manner in which the negotiations are conducted. When marl lands are hunted with the aid of a brass band and a press bureau prices as high as \$40 per acre have been paid. On the other hand, lands located on transportation routes and underlain by 40 feet of limestone and more shale have been purchased at about \$5 per acre. In the Lehigh district, where little cement land remains unbought, prices varying from \$100 to \$500 per acre have been quoted."

I can add to this that good limestone land in Tennessee, Virginia or North Carolina can be bought now at prices varying from \$5 to \$25 per acre. In the chalk belt of middle Alabama prices as high as \$1000 per acre have been asked, but no cement plant could afford to pay at this rate for its raw material. A few actual sales have been made in that district as high as \$200 per acre, but it is probable that many good tracts could be purchased at from \$25 to \$50 per acre. Personally, I should consider anything over \$25 per acre to be an excessive price unless the tract possessed exceptional advantages in the way of location, fuel supplies or transportation.

The question of land values being disposed of, the cement possibilities of the different States can now be described. For convenience the States are divided into two groups, and only one of these will be considered in the present article. The lower South, as the term is here used, includes the States of Mississippi, Alabama, Georgia, Florida and South Carolina. The cement resources of these States will be described in the order named.

Mississippi.

At present no cement is manufactured in Mississippi, though several portions of the State contain deposits of good raw materials. These materials include hard limestones, chalks, shales and soft clays, and at many points have been examined

and analyzed with a view to determining their value for cement purposes. They fall naturally into three geographic groups.

(1) In the extreme northeast corner of Mississippi, in the counties of Itawamba and Tishomingo, deposits of carboniferous and Devonian limestones and shales are found. The limestones are usually low in magnesia, and are otherwise suitable for use as cement materials. But at present the best deposits cannot be reached with ease, being located considerable distances away from existing railroad lines. For this reason these limestones will probably remain unworked for a number of years.

(2) The Selma chalk, which has excited so much interest as a cement material in Alabama, is also well exposed in Mississippi, forming the under soil of the fertile prairie belt in Noxubee, Oktibbeha, Lowndes, Clay and other counties of Northeast Mississippi. This district has been examined with care by Mr. Albert F. Crider, now professor of geology in the University of Mississippi, and his report on it has been issued as Senate Document No. 165, third session, Fifty-eighth Congress. This report is very complete, containing maps and numerous analyses, and should be obtained by anyone interested in the development of the cement resources of the State. It is to be hoped that Professor Crider will now have an opportunity to publish a more extensive report on the cement and clay resources of Mississippi, for the industries could be greatly aided by careful geological work. The chalk is almost everywhere a satisfactory cement material.

(3) The third important cement resource of Mississippi is the belt of limestone which covers the State from Vicksburg to near Waynesboro. This belt passes a short distance south of Jackson, crossing the Pearl river at Byram station, and crosses the Gulf & Ship Island Railroad near Plain station. It is a very good cement material, and while Professor Crider was engaged in his geological survey of Mississippi the value of this rock was brought to the attention of the public. The sites at Vicksburg and Plain are the most advantageous, since they would enable a plant to market its product via New Orleans and Gulfport, respectively.

Alabama.

In Alabama several extensive series of limestone capable of furnishing excellent raw material for the manufacture of Portland cement occur, while the shales and clays necessary to complete the mixture are found in every county in the State. As a matter of convenience the Portland-cement materials of Northern Alabama, of central and of Southern Alabama will be discussed separately, because there is a marked geologic as well as geographic distinction between the three portions of the State.

(1) In Northern Alabama, from Birmingham to the Tennessee and Georgia lines, hard limestones and shales occur at many points. Fuel is abundant and cheap in this district, and with such deposits of raw material available it seems probable that an important cement industry will be developed. At present these limestones are not used for this purpose, but a cement plant is now being built at Leeds, and will probably be in operation late in 1906 or early in 1907.

The limestones which are of value for this purpose in Northern Alabama are of two types—the Bangor or "subcarboniferous" limestone and the Chickamauga ("Pelham" or "Trenton") limestone.

Both occur in heavy beds in all the valleys of Northeast Alabama; both are usually low in magnesia, and both have been extensively worked for furnace flux. In the broad Tennessee valley the Bangor limestone is particularly well developed, and it has recently been proposed to locate a cement plant in this area to use this limestone, and to derive power for the plant from the low falls and rapids along the river.

(2) In central Alabama the Black Belt is underlain by very thick (300 to 1200 feet) deposits of the Selma chalk or rotten limestone. The purer varieties of this chalk, i. e., those carrying 75 per cent. or more of lime carbonate, are exceptionally valuable as cement materials, for they are very soft and easily quarried and crushed. At many points the chalk carries just about the right percentage of lime carbonate to make a good cement material without any addition of clay. For example, a sample collected from the Ambrose or Roberts plantation, near Gainesville, on the Tombigbee river, gave 75.57 per cent. lime carbonate on analysis.

(3) In Southern Alabama the so-called white limestone outcrops at many points in the counties of Washington, Clarke, Monroe, Conecuh, Covington, Geneva and Houston. This limestone is also well adapted for use as a Portland-cement material. Its chief disadvantages, as compared with the Selma chalk, are that it is not so easily crushed and that its outcrops are located farther from the coal fields.

It will be noted that these Alabama deposits, particularly the chalk beds of the Cretaceous, possess many economic advantages over most of the limestones which occur elsewhere near the Atlantic seaboard. These may be briefly stated as follows:

(1) The Selma chalk deposits of the Cretaceous are in general of almost exactly proper composition for the manufacture of Portland cement, requiring the addition of little or no clay. This correctness of composition will materially reduce the cost of manufacture. The St. Stephens limestone of the Eocene is not so near to ideal composition as the Selma chalk, but will still prove to be a very satisfactory cement material when used in combination with the overlying Grand Gulf clays.

(2) Coal of good quality occurs within a reasonable distance of all the cement beds. As the coal used in boilers and kilns will amount to 60 to 70 per cent. of the weight of cement produced, a supply of fuel at low prices is an important element in the success of a cement plant.

(3) Labor is abundant and cheap in the Alabama cement district.

(4) In addition to the local market for cement furnished by such cities as Atlanta, Birmingham, Mobile and New Orleans, cement plants located upon the navigable rivers of Alabama will be enabled to place their product at any point on the Gulf or southern Atlantic seaboard at very low prices, owing to the cheapness of transportation by water as compared with the railroad freight rates which most other plants will be compelled to pay.

In view of these advantages, it seems reasonable to expect that in the near future Alabama will take high rank among the States as a producer of Portland cement. At present, however, only one plant is in operation. This is operated by the Alabama Portland Cement Co., and is located about one mile east of Demopolis, Marengo county, on the line of the Southern Railway Co.

The raw materials used are the soft chalky limestone of the Cretaceous and a residual clay, both occurring in the immediate vicinity of the plant.

Several attempts have been made to

inaugurate cement manufacture at other points in central and Southern Alabama, but only one of these projects seems at present far enough advanced to require notice. This is the Minona Portland Cement Co., consisting largely of business men of Selma, Montgomery and Mobile, and designed to build and operate a cement plant at Epes station, where the Alabama Great Southern Railroad crosses the Tombigbee river. The company owns chalk and clay lands at this point, and expects to construct a plant during 1906 to have an output of 1200 barrels per day. In view of the excellent transportation advantages enjoyed by this location, the plant should be in a position to manufacture and market cement very cheaply.

Georgia.

Soft limestones occur in middle and Southern Georgia, and marbles in the highlands north of Atlanta, but all these materials are ill-located with regard to fuel, transportation or markets. In the northwestern part of the State, however, the case is different. Here the same limestones and shales which have been noted in discussing the cement resources of Northern Alabama occur and offer good opportunities for the establishment of a Georgia cement industry.

A belt of Chickamauga limestone enters Georgia a few miles southwest of Chattanooga, the Alabama Great Southern Railroad running on this limestone belt from near Chattanooga to a few miles below Trenton; another belt is crossed by the same railroad about three miles south of Rising Fawn; a third belt is followed closely by the Southern Railroad from Rossville to Cedar Grove, and another belt is followed by the same road from Bronco to Menlo. The line from Chattanooga to Summerville runs, for five miles east of Chickamauga, across one of these limestone belts. An extensive belt of the limestone borders the western faces of Taylors Ridge and White Oak mountains, but is crossed by railroads only at two points, near Ringgold and Lavender, respectively. Other belts are crossed at Dalton and between Dalton and Tunnelhill.

The Chickamauga limestone is very extensively exposed in the northern half of Polk county, being crossed by railroads at or near the stations of Esomhill, Cedar-town, Fish Creek, Rockmart, Davittes and Taylorsville. As later noted, one Portland-cement plant is already in operation at Rockmart, utilizing this limestone.

Throughout its range in Georgia the Chickamauga limestone is commonly a rather pure rock, carrying 90 to 95 per cent. of lime carbonate, with less than 2 per cent. of magnesium carbonate.

The Bangor or "subcarboniferous" limestone outcrops along the flanks of Lookout, Sand and Pigeon mountains. This limestone is also usually low in magnesia and very satisfactory for use as a cement material.

Only one Portland-cement plant is in operation in Georgia, that of the Southern States Portland Cement Co., located near Rockmart, Polk county. This plant uses the Chickamauga limestone with some associated shales.

Florida.

Though Florida is largely underlain by beds of limestone of Tertiary and recent age, these are covered over great areas by later deposits of sand and gravels. Owing partly to this, and more largely to the lack of local fuel deposits and cement markets, no attempt has ever been made to manufacture Portland cement in the State. Should commercial conditions ever change so as to render a local cement industry possible there will probably be little difficulty in locating deposits of limestone suitable for use as Portland-cement material, for

the St. Stephens limestone, which is so promising a source of cement material in Alabama, covers a large area in Northern Florida, while other limestones of equal value as cement materials outcrop elsewhere in the State.

South Carolina.

Limestones occur at many points in South Carolina, but no good geological map of the State is in existence and no recent report has been issued on these rocks. The western portion of the State

contains a number of beds of metamorphosed limestone or marble that seem to be satisfactory in composition, but fuel supply, local markets and cheap transportation are all lacking.

In the coastal plain soft limestones of Tertiary age, the so-called "marls," outcrop at many points. Many of these materials would be very satisfactory for Portland-cement manufacture, but the fuel question has so far prevented the development of the industry.

BONDS FOR WATERWAYS IMPROVEMENT.

Mr. E. P. Wilson, vice-president and manager the Cincinnati Board of Trade Co., Cincinnati, Ohio, in a letter to the MANUFACTURERS' RECORD regarding the suggestion of liberal provision for the improvement of the national waterways, says:

"I beg to state, in general terms, that the sentiment of this board, and, in fact, of the entire business sentiment of this city, may safely be stated as strongly inclining to the plan suggested by you editorially, that the national government should issue bonds in sufficient amounts to carry out immediately on a broad scale the plans which are now being handled piecemeal for river and harbor work. In this regard our people are particularly interested in the application of this principle to the canalization of the Ohio river, which will be an important inland connection with the Isthmian canal when it is finished. The time for the completion of these improvements should not be indefinitely deferred, as will be necessary if the present generation must furnish the cash and pay all the expenses. If, however, the general scheme can be judiciously rested upon the shoulders of posterity, by whom the great relief will be realized, it would seem to be a policy of national wisdom to do so. I think I can confidently predict a general moral support to your ideas from this section of the country."

E. A. Smith, president Cairo Commercial Club, Cairo, Ill., writes to the MANUFACTURERS' RECORD:

"The article published in your issue of February 1 is entitled to the praise of the business interests of our entire country. The benefit to be derived by the commercial, industrial, manufacturing, mining and agricultural interests of this grand country of ours by a broad and progressive policy in the improvement of our waterways cannot be overestimated from a business standpoint. The foundation of our country is its business interests. Anything that retards business affects the entire country; the same applies to that which has a tendency to improve our business interests benefits the entire country. If our business interests are at a standstill our progress is slow, and if our business interests take a step backward the entire country feels its effect, while if the business interests are of a forward, progressive nature our business foundation is made so strong that nothing can affect it. Nothing helps to build up and maintain the business interests of this country more than honest competition. The competing lines of railroads entering the large cities are aiding in building up the business interests and adding to the population. Each year adds new lines of railroad, all trying to reach the 'great centers,' coming in competition with other roads or extending their lines to protect their business, and at the same time building up and adding strength to the general business of this nation, also endeavoring to take care of the business offered them as the growth of their business increases. Still the railroads are unable to handle the freight offered, let it be from coast, lake or river

city. While we have in this country the greatest waterways of the world, bordering on or running through the most fertile part, rich in agricultural, mining, manufacturing and industrial resources now developed, as well as the vast undeveloped territory now awaiting the improvement of the waterways to bring millions to the wealth of our nation, there are those who feel that the improvement of our great national waterways means competition in rates. That may be true, but it will serve the same purpose in legitimate business as the railroads are doing and open up new fields or develop old ones in this growing and prosperous country of ours. The railroads are forging ahead, keeping pace with the times, opening up new territory, building up new settlements, towns and cities, making room for the increasing population of this country, while the executors and administrators of George Washington's estate are allowing the most valuable part of what was left by him to go to waste and depreciate in value. The most valuable assets left by the Father of Our Country are our inland waterways, and they should be maintained, improved and utilized for the benefit of this whole nation.

"Improve them now. Issue bonds bearing a low rate of interest; make the bonds available for national bank circulation, using our national government's name for their issue. The people will furnish the money. The nation will have the use and benefit. The whole country will prosper. This generation will have the use and benefit and keep up the interest and go to the trouble of providing and making the improvements, while the next generation will also have the use of and provide for the payment. It is my opinion the improvement of the great waterways of our country is the best investment our government can make. Lock and dam the Ohio river from Cairo to its headwaters, connect it with Lake Erie by canal, improve the Mississippi river from the Gulf of Mexico to its headwaters and connect it with Lake Michigan by canal. Make these streams useful, put them to work moving their part of the vast tonnage along their fertile valleys, and make a prosperous and continuous settlement along their banks. These great national waterways of ours, powerful and industrious, always willing and ready to do their part, are neglected and uncared for. Yet they stand ready and willing to offer their assistance in transporting the rich and noted or the poor and humble over their waters without charge; all is free, and everybody welcome to their use. If the authorities at Washington were empowered to grant the perpetual use of the Ohio and Mississippi rivers to a corporation we would see one of the most powerful combinations of wealth in the world organized to improve and use these great streams, to profit and pay good returns upon the investment. These streams would be improved from their source to their mouth, and they would develop and add wealth to our nation. It would please me greatly if the Congress of this great nation would only

think as I do. They would then issue bonds sufficient to improve our great waterways at the earliest possible moment. The people will furnish the money and the nation will reap the benefit from the business prosperity resulting therefrom."

BIG SANDY IMPROVEMENT.

Coal to Become Available With Slackwater Navigation.

[Special Cor. Manufacturers' Record.]
Williamson, W. Va., March 16.

The work of the Big Sandy River Improvement Association is now becoming of vital interest to the public, especially to those whose interests and investments are centered in the counties of Wayne and Mingo, West Virginia, and Johnson, Martin, Lawrence, Boyd, Pike and Floyd, Kentucky, all of which lie on the Big Sandy river or its tributaries, the Tug and the Levisa.

The history of this association is a record of continued effort and enthusiastic, resourceful, untiring devotion to the cause of slackwater navigation on the part of a small number of public-spirited citizens in the valley for a number of years past.

The present project for improvement was submitted in 1898 by Major Bixby, corps of engineers, and contemplates the carrying of slackwater a total distance of 173 miles on the main river and its tributaries by the construction of locks and dams. The total cost of the completion of this work is estimated at \$4,725,000, which allows \$250,000 each for the dams in the lower and \$200,000 each for those in the upper stretches of these streams.

Two of these locks and dams, the one at the mouth of the Big Sandy, near Catlettsburg, and the one at Kavanagh, are completed, and the needle dam at Louisa is also finished, and their operation is all that can be desired and demonstrates the feasibility of the plan to make the whole system navigable by the construction of other locks and dams.

In addition to this, the first lock in each tributary is completed and the dam under construction, and the funds have already been appropriated for the second lock and dam in both Tug and Levisa forks. When completed there will be 10 of these dams on the Levisa and 8 on the Tug, the upper one on the former to be near Pikeville and on the latter one mile above Williamson, which will give navigable water several miles above these towns.

In a recent interview Mr. B. Randolph Bias, secretary of the Improvement Association, Williamson, W. Va., stated that at each session the river and harbor bill carries an appropriation for the continuance of this work, and that under this system the entire work would be completed in six or eight years.

The valleys of the two tributaries are very narrow and the hills on either side are notably precipitous. These hills are continuously underlaid with an incalculable wealth of coal, of which it has been estimated that there are 2,217,216,000 tons available to direct water transportation on this waterway. Every county in both valleys has millions of tons of coal which is showing under authoritative analyses the best grades of steam, domestic and coking coal. The entire territory contiguous to these rivers has been exhaustively opened and tested, and the only thing necessary to make this one of the greatest bituminous coal fields in the world is transportation. Mingo county alone, one of the smallest of the counties named, is now shipping over 1,250,000 tons a year over the Norfolk & Western Railway, and in the year 1905 the developments in this county were 54 per cent. over those of the preceding year.

The main ridges at the head of all the creeks are still covered with valuable tim-

ber in both hard and soft woods. The extended lines of the Norfolk & Western and Chesapeake & Ohio systems are simply relieving temporarily the congestion of coal traffic, and the Big Sandy valley awaits with impatience the arrival of slackwater navigation.

HENRY M. PAYNE.

BLACK BAND COAL.

Another \$500,000 Company Organized for the Field.

[Special Cor. Manufacturers' Record.]
Charleston, W. Va., March 20.

The Olcott Coal & Iron Co., incorporated under the laws of West Virginia with a capitalization of \$500,000 paid up, has been organized to take over the 6000-acre tract of Black Band coal lands on Brier creek, Kanawha county, West Virginia, formerly comprising the holdings of the Emmons Tract Coal Co. The title to the land was purchased at court sale by R. Morgan Olcott February 27.

In addition to the companies already operating under lease on these lands, comprising the American Coal & Coke Co., the Coal River Lumber & Coal Co., the Knickerbocker Coal Co. and the Reynolds Black Band Coal Co., it is the intention of the Olcott Company to open up other properties on the tract and execute additional leases to other operators. Furthermore, it is proposed to exploit the iron ore on the properties. The company is now opening up for exploitation ore beds on the lands, and will determine the extent and quantity in which the iron ore may be found. An analysis of the ore shows the quality to be very excellent, as high as 57 per cent. of metallic iron being shown.

The officers of the Olcott Coal & Iron Co. are: R. Morgan Olcott, president; Duncan B. Cannon, vice-president; A. de Costa Gomez, secretary and treasurer, all of New York. The directors include, besides Messrs. Olcott and Cannon, T. A. Potts and John B. Loree of New York and S. B. Avis of Charleston. Mr. Olcott is president of the Coal River Lumber & Coal Co., and has been largely interested in this section for some time. He is a man of very wide interests, as is evidenced by the fact that he has investments in coal lands and water-works in Japan, street-car companies in Argentina, has a franchise for a steamship line on the Orinoco river in Venezuela and is president of a steel company at Covington, Ky.

In connection with the development of the Black Band coal lands, the Kanawha Central Railroad Co. has been organized to build and operate five miles of railroad, affording an outlet for the products of the mines through the connection of the Coal River branch of the Chesapeake & Ohio Railroad at Brounland. The officers of the railroad corporation are members of the firm of Avis, Jordan & Hardy of Charleston.

ALBERT PHENIS.

PAPER FROM RICE STRAW.

Chances for the Establishment of Mills in the Louisiana Belt.

Regarding plans for the establishment in Louisiana of mills for the manufacture of paper from rice straw, Mr. H. M. Brown of W. W. Dusen & Bro., Crowley, La., writes to the MANUFACTURERS' RECORD as follows:

"During the past five or six years we have had propositions of this kind on hand from time to time, but have never been able to bring them to a successful completion. We feel that our supply of raw material here should be an incentive to the location of such plants, but our lack of railway facilities has always been the chief drawback in promoting such an enterprise. We are glad to say, however, that within the last 12 months there has been a great deal of work done in regard to building and promoting new railroads

in our section of the State. We now have one road known as the Opelousas, Gulf & Northeastern Railroad, under construction from Melville, on the Texas Pacific, to Crowley. This will give us a good connection with the Gould system at the first-mentioned point. Work is being pushed on this line from one end to the other, and we are advised by its officials that the contractors will be required to have it completed by November 1. The Colorado Southern, which is a part of the Frisco system, has under construction a road from De Quincy, on the Kansas City Southern, to Baton Rouge, La., from whence they will run into New Orleans, and all arrangements are completed with them to build a spur line into Crowley, giving us another very valuable railroad connection. You can readily understand that the advent of these two railroads causes us to feel that the difficulties attendant upon lack of railroad facilities should be entirely removed within the next few months, and that our section, and particularly the town of Crowley, offers an excellent location for a plant of this character. Our people are willing and anxious to do anything they can to assist in promoting enterprises of this nature, and will stand ready to help in a substantial manner."

GEORGETOWN INDUSTRIES.

Expansion in Different Lines in the Carolina City.

[Special Cor. Manufacturers' Record.]
Georgetown, S. C., March 20.

Georgetown, one of the oldest cities on the Atlantic coast, is now in the very front rank of the progressive, modern and rapidly-growing cities of the South. No city of its size in the State has brighter prospects; in fact, the conditions now established and the plans already perfected insure for it beyond a doubt a brilliant future. The sawing of lumber for export is the chief industry of this place today, and it turns out for this purpose more than several States combined. When Georgetown was settled in colonial days the indigo industry was the most important. Later this gave place to rice-planting, at which many men made bountiful livings and some amassed fortunes. Still later the lumber and naval-stores business took precedence, although this county yet yields annually over 350,000 bushels of fine rice, and, though rice-planting and the naval-stores and timber business are here to stay, truck farming is added as one of the important industries. The conditions near here are similar to those near Charleston, where truck farming is done successfully and profitably. The products go to the same Eastern markets, and the soil and transportation facilities are almost identically the same. Along each river an abundance of fine timber and hardwoods exist, and some of the richest lands in the country are to be found.

Several handsome residences have been built here in recent years, and Georgetown now has some of the most modern and attractive residences in the State. The business men of this city are progressive and up to date, and they are a unit in their efforts for the good of the city. The railroad facilities are good, having two mails daily, two from points north, south, east and west, and one to and from Columbia, with connections from that point. In addition to this, a freight train brings in an extra mail from the North early in the morning. There are several star routes and boats plying on its many rivers. There is no county in the State with better mail and passenger facilities. It is said that Georgetown suffers perhaps less than other coast towns any extremes in temperature, because of its delightful sea breezes. The summer thermometer scarcely goes above

90 degrees, and the nights are comfortable. Of course, there are no extreme temperatures in winter. The climate is mild and bracing, and seldom is as enervating as in Florida.

Getting out railroad ties, shingles and naval stores are important enterprises, though all of this business has been naturally reduced since the lumber business assumed such extensive proportions. The annual output of cross-ties and shingles is very large. There is a dearth of diversified manufacturing enterprises here, but the Board of Trade is endeavoring to interest large and small manufacturers and is making inducements for them to locate at this place. It would be well for those contemplating a change in location to write Mr. Walter Hazard, president of the the Board of Trade, for full information.

I. S. FIELD.

FOR ENGINEERS AND BUILDERS.

Investigations of Fuels and Structural Materials.

President Roosevelt has approved of a plan to co-ordinate certain investigations as to fuels and structural materials and the properties of timber, and has appointed to that end a large number of engineers and other members of the National Advisory Board for Fuels and Structural Materials. The board includes in its membership a representative from each of the government bureaus that are doing actual construction work on a large scale.

The plan has grown from certain pieces of excellent practical work done under government auspices, the investigations of the fuel values of coal, lignites and other substances and laboratory tests of various building materials by the United States Geological Survey, and investigations into the strength of timbers and methods of timber preservation by the forestry service of the Agricultural Department. This work has been done in response to an increasing demand for information coming from the engineers, architects and builders in all parts of the country, caused by the rapid changes now under way in the materials used in construction.

To bring all of these investigations into closer touch with both the users and the producers of fuels and structural materials the officers of the National Engineering and allied societies were asked to suggest the names of members who might be appointed members of the advisory board, and the board as announced is the result of the hearty and general approval given the suggestion.

Following is the list of members of the National Advisory Board of Fuels and Structural Materials:

From the American Institute of Mining Engineers—Johns Hays Hammond, past president, Empire Building, New York; Robert W. Hunt (of Robert W. Hunt & Co., testing engineers, Chicago, Pittsburg and New York), Chicago, Ill.; B. F. Bush, manager and vice-president Western Coal & Mining Co., St. Louis, Mo.

From the American Institute of Electrical Engineers—Francis B. Crocker, professor of electrical engineering Columbia University, New York; Henry C. Stott, superintendent motive power Interborough Rapid Transit Co., New York.

From the American Society of Civil Engineers—C. C. Schneider, president, chairman committee on concrete and reinforced concrete, Pennsylvania Building, Philadelphia, Pa.; George S. Webster, chairman committee on cement specifications, city engineer, City Hall, Philadelphia, Pa.

From the American Society of Mechanical Engineers—W. F. M. Goss, dean of the School of Engineering, Purdue University, Lafayette, Ind.; George H. Barus, steam engineer, Pemberton Square,

Boston, Mass.: P. W. Gates, 210 State street, Chicago, Ill.

From the American Society for Testing Materials—Charles B. Dudley, president, Altoona, Pa.; Robert W. Lesley, vice-president, Pennsylvania Building, Philadelphia, Pa.

From the American Institute of Architects—George B. Post, past president, 33 East 17th street, New York; William S. Eames, past president, Lincoln Trust Building, St. Louis, Mo.

From the American Railway Engineering and Maintenance of Way Association—H. G. Kelley, president, Minneapolis, Minn.; Julius Kruttschnitt, director of maintenance and operation Union Pacific Railroad, 135 Adams street, Chicago, Ill.; Hunter McDonald, past president, chief engineer Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.

From the American Railway Master Mechanics' Association—J. F. Deems, general superintendent of motive power New York Central lines, New York; A. W. Gibbs, general superintendent of motive power Pennsylvania Railroad, Altoona, Pa.

From the American Foundrymen's Association—Richard Moldenke, secretary, Watchung, N. J.

From the Association of American Portland Cement Manufacturers—John B. Lober, president, Land Title Building, Philadelphia, Pa.

From the Geological Society of America—Samuel Calvin, professor of geology University of Iowa, Iowa City, Iowa; I. C. White, State geologist, Morgantown, W. Va.

From the Iron and Steel Institute—Julian Kennedy, metallurgical engineer, Pittsburgh, Pa.; C. S. Robinson, general manager Colorado Fuel & Iron Co., Denver, Col.

From the National Association of Cement Users—Richard L. Humphrey, president, St. Louis, Mo.

From the National Board of Fire Underwriters—Chas. A. Hexamer, chairman board of consulting experts, Bullitt Building, Philadelphia, Pa.

From the National Brick Manufacturers' Association—John W. Sibley, treasurer Sibley-Menge Press Brick Co., Birmingham, Ala.; Wm. D. Gates, American Terra-Cotta & Ceramic Co., Chicago, Ill.

From the National Fire Protective Association—O. U. Crosby, chairman executive committee, 76 William street, New York city.

From the National Lumber Manufacturers' Association—Nelson W. McLeod, president, Equitable Building, St. Louis, Mo.; John L. Kaul, president Southern Lumber Manufacturers' Association, Birmingham, Ala.

From the Corps of Engineers, United States Army—Lieut.-Col. Wm. L. Marshall, Army Building, New York.

From the Isthmian Canal Commission—Lieut.-Col. O. H. Ernst, Washington, D. C.

From the Bureau of Yards and Docks, United States Navy—Civil Engineer Frank T. Chambers, Washington.

From the Supervising Architect's Office, United States Treasury Department—James K. Taylor, supervising architect, Washington, D. C.

From the Reclamation Service, United States Interior Department—F. H. Newell, chief engineer, Washington, D. C.

The Commercial Club of Bradenburg, Ky., has been organized with Messrs. H. C. Woodson, president, and David M. Duncan, secretary.

The Commercial Club of Middlesboro, Ky., has been organized with Judge J. R. Sampson, chairman, and W. H. Gagle, secretary.

Kentucky-Tennessee Oil Field.

[Special Cor. Manufacturers' Record.]
Barboursville, Ky., March 19.

The heavy-grade oil of the Kentucky field has received an advance by the Standard Oil Co. Five cents per barrel have been added to the quotations, raising the figures to 60 cents per barrel. The better-grade oil has undergone no change for several months, the prevailing figures, 89 cents per barrel, having been established last November.

As a result of the boost in the price of the heavy oil developments may be stimulated in the region where it is produced. The greater part of this grade of oil is found in upper Kentucky, in the Bath and Rowan county fields, and most of the wells there are owned by the Standard. There has been very little new drilling, especially by independent fields, as the main development has been pretty well gone over, and the price commanded by the product has not been sufficient for test drilling in the outlying districts.

In the light-grade oil fields drilling continues to expand, although 89 cents per barrel is not a satisfactory price to the producers. However, the better drilling conditions serve in some degree to offset the dissatisfaction felt over the low prices.

In the Eastern Kentucky fields Wallen & Day are preparing for extensive developments in Knott county. Sixteen thousand acres have been secured. In lower Kentucky Meredith, Vickery & Co. have contracted to drill a large number of new holes in the Cooper district of Wayne county, and in the lower part of the same county Parkersburg, W. Va., operators have begun extensive developments. Across into Tennessee Chicago operators have begun work in Fentress county. The Osborne Petroleum Co., which recently acquired an additional acreage of extensive proportions in Barren county, will develop its new holdings.

During the first two weeks in March drilling was not pushed as vigorously as during the last two weeks of February, although a larger number of contracts were let during March. The completions for two weeks ending March 15 aggregated 14, the strikes being made in Wayne, Wolfe and Floyd counties, this State. The best strike made 50 barrels daily. During the latter part of the month a larger number of completions is expected, as quite a number of wells started during the past few days are due to be completed within the next week or two. W. S. HUDSON.

The Iron and Metal Trades.

The *Iron Age* in its weekly review says: "The iron market drifts on, and the week has brought few signs of anything more stirring ahead, so far as new business is concerned. The coal situation undoubtedly is the immediately restraining factor, and it covers for the time influences of a more permanent significance. Preparations for a strike affecting at least three States in the bituminous territory go on, the coke market reflecting them in a slight advance. Pig-iron buyers do not appear concerned about the possible effects of a coal strike; at least there is no buying that is recognized as precautionary. Leading Southern producers of foundry iron maintain their prices, while consumers wait. The buying at concessions involves but small tonnage. Northern foundry iron is weaker in the central West. Negotiations between the Steel Corporation and the Bessemer Pig-Iron Association for second-quarter iron will be taken up shortly. It is likely that purchases in the second quarter will be month by month.

"Even with its production at the unprecedented rate of 48,000 tons of ingots a day, the Steel Corporation is being pressed for more steel by one important subsidiary.

Specifications on contracts in all finished lines are at a record rate, and the lighter-material accumulations against spring demand are still impossible.

"The Pennsylvania Railroad has not bought 45,000 tons of open-hearth steel rails, as widely reported. It has several thousand tons of such rails in track for experimental purposes, and if results are as favorable as anticipated will undoubtedly use considerable quantities. The Southern mill is filled up to February, 1907, and any quantity of open-hearth rail business taken by other mills would mean the shipment of steel from open-hearth plants to rail mills and its reheating.

"The rail trade is a conspicuous exception to the general market condition. Each week adds heavily to the bookings of the mills, and the production record of 1906 now promises to go well beyond the 3,300,000 tons of 1905. In the present week the Northern Pacific has bought 30,000 tons, the Great Northern 20,000 tons, the Lake Shore 15,000 tons and the Santa Fe 7000 tons, while trolley lines and miscellaneous business have brought the total beyond 100,000 tons. The light-rail trade is in exceptionally good condition.

"Some of the large structural contracts that have been hanging over the New York market for weeks are still delayed, apparently for financial reasons, but if all present uncertainties work out satisfactorily an enormous business is ahead of the mills.

"Plate-mill capacity is more in evidence, and in some cases prompt business would be welcome.

"Pipe-line work projected includes 21 miles in Washington county, Pennsylvania, for the Carnegie Steel Co. natural-gas department. About 4000 tons will be required.

"The Steel Corporation and other important Lake Superior iron-mining interests have advanced wages, beginning March 1, the average being about 7 per cent."

Southern Hardware Jobbers.

The executive committee of the Southern Hardware Jobbers' Association will meet at Pittsburg, Pa., March 27 and 28 to confer with the executive committee of the American Hardware Manufacturers' Association as to plans for a joint meeting of the two associations at Hot Springs, Va., June 12-15.

International Guide. For merchants, manufacturers and exporters. By C. Regenhardt. Published by the author, Berlin and Vienna. New York agency at No. 11 Broadway. Price \$1.55.

This work is a directory of the best accredited and most reliable firms of banks, bankers, commission and forwarding agents, lawyers, notaries, solicitors and all the consulates of the world. It is a medium for direct information, and contains addresses wanted every day by firms engaged in foreign business. However remote a place may be, the book gives particulars that are of service to the merchant, such as data concerning shipping intercourse, consular and customs service, special information, etc. Its contents and arrangement have been steadily improved, and the mass of data is so classified and indexed that it is readily accessible.

The Southwestern Ice Manufacturers' Association has elected Messrs. W. H. Dawley of Paris, Texas, president; Geo. Diehl of Fort Worth, vice-president; J. C. Mitchell of Temple, secretary, and John L. Lee of Brownwood, C. E. Jones of Lockhart and S. H. Burrows of Waco, executive committee.

The Board of Trade of Bessemer, Ala., believes there is a good chance of bringing to that city three new industries employing in all 150 men, mostly skilled.

FOREIGN LETTERS

The MANUFACTURERS' RECORD is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. Some of these letters indicate the disposition of foreigners to buy American goods, and are therefore of interest to our readers.

A Voice from Japan.

Sajiro Tateish, 43 Miamimachi, Takawawa, Shibaku, Tokio, Japan:

"Please be kind enough to notify your advertisers to mail me catalogues and samples, if possible, stating amount of commission and export prices upon the following articles advertised in your issue of January 18: Coal tipples, dust-collecting systems, electrical supplies, mineral wool, prisms, quarrying and stone-cutting machinery and wood screws."

Vehicles for Colombia.

Charles J. Eder, manager Cauca Valley Agricultural Co., La Manuclita, Colombia:

"The concession for building the railroad from the coast to this valley has now been given to an American, and should he build it I think there may spring up a good demand for carriages, carts, wagons, electrical machinery, water motors and machinery in general. At present everything comes in on a mule's back."

Exports for Smyrna.

C. A. Jassoff & Prossen, commission merchants, Smyrna, Asia Minor:

"We shall be most happy to enter into correspondence with American manufacturers or exporters of acids, alcohol, matches, mahogany, ammonia, batistes, butter, borax, coffee, stoves and wool and cotton manufactures."

Grain for Bremen.

Luis Bosse, No. 20 Koenig-Albertstrasse, Bremen, Germany:

"As there are being made very large shipments of corn and other kinds of grain from your country to Bremen, I am desirous of becoming the representative of a good American firm dealing in these articles."

Wood Pulp in Holland.

Nico Schultz, Rotterdam, Holland:

"I would be glad if you would give me the address of some manufacturer of wood pulp used to make paper. I am doing a good business in this article, and think the agency of one of the American mills would be very well indeed."

Decorative Paints and Papers.

L. N. Rodriguez, Leon Guanajuato, Mexico:

"The Antigua Tlapaleria de Escamilla of this city is most anxious to get in touch with manufacturers of paints, varnishes and gilt-edged paper trimmings for decorating boxes, coffins, etc."

Iron for Turkey.

G. Tsatsakos Fils & Co., agents, Constantinople, Turkey:

"We shall be glad if you place us in communication with makers in America of such iron products as are in use among carpenters, stovemakers and blacksmiths."

Has Continental Connections.

Paul Claes, No. 21 Rue de Dunkerque, Paris, France:

"I wish to represent American manufacturers on the continent, as I have many connections in France and on the continent that I may use to advantage."

Mr. S. Davies Warfield, president of the Continental Trust Co. of Baltimore, has been elected a director of the Missouri Pacific Railway. He is also a director in the Western Maryland Railroad, which is another line of the Gould system.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

BIG CAR SHOP PROPOSED.

Mississippi Central Railroad Would Build Its Own Plant.

According to a report from Jackson, Miss., officers of the Mississippi Central Railroad and others have urged upon the legislature of that State an amendment of the law which at present prevents manufacturing companies from holding real and personal property amounting to more than \$2,000,000. It is urged that the limit be fixed at \$10,000,000 or else completely removed. Several large lumber manufacturers are also said to be supporting the movement for a change in the statute.

Mr. F. R. Davidson, vice-president of the Mississippi Central, is reported as saying: "It is our purpose to establish at Hattiesburg a large car-manufacturing establishment, the first work of which will be to manufacture 200 cars for our own use, and to furnish cars to other railroads. Under the present corporation laws of Mississippi, however, it will be impossible for this plant to operate. During present conditions, of course, any car foundry can secure all the orders it can handle, but these conditions may not prevail forever, and we will eventually be brought into competition with other manufacturers with liberal capital. In the face of this competition Mississippi's corporate limit law, of course, seems absurd."

Concerning the extension of the railroad, Vice-President Davidson is quoted thus: "We are now having our final survey made for the line from Brookhaven to Natchez and will have the road opened between Hattiesburg and Brookhaven within a short time. Our stockholders are well pleased with their Mississippi investments, and with certain changes in the corporation laws this State will be an ideal manufacturing Commonwealth."

COAL TO THE LAKES.

Chesapeake & Ohio to Ship via the New Bridge at Ironton.

President George W. Stevens of the Chesapeake & Ohio Railway says, according to a report from Richmond, Va., that the company has made an arrangement with the Cincinnati, Hamilton & Dayton Railroad by which coal will be shipped to the Great Lakes over the new bridge at Ironton, Ohio, instead of sending all coal by way of Cincinnati, as before. The trains will run from Ironton via Dayton to the Lakes, a route 37 miles shorter than that via Cincinnati. This, it is said, will open a great market in the Northwest for New River coal.

President Stevens is also reported as saying: "We are doing an immense amount of new work, besides double-tracking and yard-building at various points. Our business has grown so big that we are compelled to double-track and to enlarge a number of our yards. For the month of February, 1906, the road carried 1,500,000 tons more of freight than in January, 1905, an increase of 37 per cent."

"We are constructing a big yard at Thurman, W. Va., where 500 cars of coal are handled every day, and the big 'hump yard' at Russell, Ky., the two costing something over \$500,000. We are also building 'hump yards' at Clifton Forge and at Hinton, and an ordinary freight yard at Covington, Ky. Richmond and Newport News have yards so large and well built that there is no need of improving them."

President Stevens is further quoted as saying that the Chesapeake & Ohio Steam-

ship Co. is now operating eight ships instead of five, as heretofore.

Northeast Texas Extension.

Mr. V. E. Buron, general freight agent of the Northeast Texas Railroad Co., writes from Texarkana, Texas, to the MANUFACTURERS' RECORD concerning the proposed extension, saying:

"Our objective point is either Daingerfield or Hughes Springs, whichever is the most advantageous to us. We have on the road five miles of steel which we will lay, and that will put us within six miles of either of these two places. Our extension from Redwater to Texarkana is in abeyance, but we will eventually build to this city. The object of this five miles of steel is to get into our timber, and we will extend gradually until we tap the Missouri, Kansas & Texas Railway, at what junction point we are not as yet decided."

"The length of the line at present is from Redwater to Munz, Texas, a distance of 18¾ miles, and four miles of steel laid beyond Munz and five on the road will make us nine miles beyond Munz, making a total mileage of 27¾ miles."

"We are connected at present with the Cotton Belt Railway at Redwater. The proposed connection is with the Katy South and the St. Louis Southwestern of Texas, the St. Louis Southwestern, the Kansas City Southern Railway, the Texarkana & Fort Smith Railway, the Texas & Pacific Railway and the St. Louis, Iron Mountain & Southern at Texarkana."

"The territory to be traversed is a large timbered section, fine agricultural country, with estimated ore deposits on the land traversed. The name of the engineer in charge is our president, Mr. Gus Munz. We have not decided as yet to let this contract or build it ourselves."

SANTA FE IN TEXAS.

Charter Amendment for Important Extensions—Branch in Louisiana.

That the Santa Fe system will build the long-talked-of line from a point on the Pecos & Northern Texas to Brownwood, Texas, appears to be assured by an amendment to the charter which has just been filed by the company. The Pecos & Northern Texas Railway Co. is part of the Santa Fe system, and the amendment increases its capital from \$100,000 to \$575,000. The route outlined is from a point on the main line in Farmer county, on the western boundary of Texas, southeast for a distance of about 350 miles to Brownwood, Texas, where connection will be made with the Lampasas branch of the Santa Fe system. This route, it is said, will be part of a transcontinental short line.

The amendment furthermore covers the branch which is being built from Canyon City, on the Pecos & Northern, south through Plainview and Lubbock, a distance of 125 miles.

The Santa Fe has also amended the charter of the Jasper & Eastern Railroad, which is now under construction eastward from Kirbyville, Texas, to De Ridder and Alexandria, La. The amendment provides for a branch from a point between the two stations last named southeastward to a connection with the Kansas City, Watkins & Gulf Railroad between Woodworth and Oberlin, La., 28 miles.

New Equipment.

The Atlantic Coast Line, according to a press report from Wilmington, N. C., where the headquarters of the company are situated, will shortly let a contract for 40 passenger cars and will later give an additional order for coal cars.

The Virginia & Southwestern Railway has, it is reported, placed the following additional car orders: 500 wooden gon-

dolas from the Western Steel Car & Foundry Co. and 250 box cars from the American Car & Foundry Co.

The Illinois Central Railroad will, it is said, either purchase 700 box cars or build them at its own shops.

The San Antonio & Aransas Pass Railway will, it is reported, purchase some new equipment.

The New Orleans & Northeastern Railroad, according to a press report, will shortly purchase 600 box cars, 200 flat cars and 150 coal dump cars.

The Alabama Great Southern Railway at Gadsden, Ala., is reported to be erecting buildings and putting in machinery to increase its daily output from 5 to 25 new freight cars. It is said that when the shops are remodeled the force will be increased from 160 to 800 men.

The South Atlantic Car Manufacturing Co. at Waycross, Ga., is reported to be building a paint shop about 540 feet long. As heretofore noted, the company is doing a large business.

Fayetteville to Siloam Springs.

Mr. A. F. Wolf, president of the Frisco Lot & Land Co., writes from Fayetteville, Ark., to the MANUFACTURERS' RECORD as follows:

"Mr. N. H. Haskell, Ira L. Reeves, myself and others are planning to build a road from Fayetteville to Siloam Springs, a distance of 28 miles, through the greatest apple-orchard belt perhaps in the United States."

"We are having some difficulty in getting steel rails."

"The construction will be let by contract. The road will be known as the Orchard Belt Railroad. This will connect the Kansas City Southern with this city."

"We have a city of 8000 inhabitants. The Frisco has three lines into this town, and we are desirous of having other outlets."

"If we can get the steel, construction will begin in a short time."

Chicago to Evansville.

President John B. Carter of the Chicago, Indianapolis & Evansville Railroad Co. writes from Indianapolis, Ind., to the MANUFACTURERS' RECORD concerning the company's proposed railroad from Chicago to Evansville, Ky., via Indianapolis. He says: "The total length of our line and branches, no including our branches to Owensboro and South Bend, which will be built in the future, is 387.5 miles."

"We run through 50 miles of coal territory in Pike and Warrick counties, Indiana, of which we own about 75,000 acres. We also traverse the oolitic limestone at Bedford and Bloomington, run through iron ore at Shoals, and the tonnage of our road from Indianapolis south will be very large indeed."

Chattanooga Railways Deal.

A press report from Chattanooga says that the street-railway consolidation there, covering the Chattanooga Electric Railway Co. and the Chattanooga Rapid Transit Co., has been practically concluded, and that the combined system will be operated as the Chattanooga Railway Co. Graham & Co., bankers, of Philadelphia, represent a syndicate in the deal, and F. H. Monks of Boston, an engineer, will be in charge of the physical end of the merger. It is said that \$500,000 will be spent for improvements.

Kansas City Southern Plans.

The Kansas City Southern Railroad will, according to a report from Kansas City, act upon the proposition to spend about \$7,000,000 for improvements. Of this amount, \$2,983,856 will be for improving and repairing tracks and \$510,000 for reinforcement and reconstruction of

bridges, besides \$388,000 for new tracks, \$540,000 for repairs and improvements to equipment, \$435,000 for new shop facilities and \$1,604,000 for new equipment.

Poor's Railroad Directory.

Poor's Directory of Railway Officials, which covers all lines, steam, electric, etc., in the United States, Canada and Mexico, has again been issued under date of February, 1906. This is the twenty-first year of this valuable book, which is published by the Poor's Railroad Manual Co., New York, and which is distinguished by accuracy and completeness, similar in character to that which marks Poor's Manual as a standard volume of reference.

Vera Cruz Terminals.

A press report from the City of Mexico says: "Four railways will co-operate in carrying through a great scheme for improving the terminal facilities at Vera Cruz. It is estimated that the expense of a new union station, two large warehouses and other improvements is \$6,000,000, which will be furnished by the Mexican Railway, the Interoceanic, the Tehuantepec & Vera Cruz and Pacific roads."

Railroad Notes.

The first freight train to make a trip over the Cumberland extension of the Western Maryland Railroad has been run, but it is said that passengers will not be carried until May or June.

The new car shop of the St. Louis Southwestern Railway at Pine Bluff, Ark., is being rapidly built, according to a report from that city, the contractors being the W. D. Boyce Construction Co.

The mayor and board of aldermen of Yazoo City, Miss., have appointed a committee to inquire into the cost of building a street-railway system to be owned by the municipality. It is said that the work will be undertaken if it does not cost more than \$50,000, and that power will be furnished by the present municipal lighting plant.

A press report from Houston, Texas, says that the Yoakum interests, controlling the St. Louis, Brownsville & Mexico Railway, the Trinity & Brazos Valley Railway and the Houston Belt & Terminal Railway Co., will unite with the Gulf, Colorado & Santa Fe Railway Co. (Santa Fe system) in building a union passenger depot and freight terminals.

The St. Louis, Brownsville & Mexico Railway has run its first train to Galveston over the newly-completed extension from Sinton via Bay City. The road was finished 20 days before the expiration of the contract made with the city of Galveston, which gave a bonus to the company. Regular traffic will not, it is said, be started to and from Galveston until about May 1.

The Savannah Electric Co. is improving its street-railway system at an estimated cost of about \$140,000. A 1200-horse-power cross-compound engine, a large electric generator, a new condenser, boilers and stacks have been purchased, besides a number of motors and a large quantity of copper wire. The company will also expend a considerable sum for track improvements.

The Chicago & Alton Railway and the Mobile & Ohio Railroad announce that the Havana Limited service has been discontinued and the steamship Prince George, running between Mobile & Havana, has been withdrawn. Hereafter passenger traffic from Chicago to Havana, Cuba, via these railroads and the Munson Steamship Line will be handled in connection with the regular train service and the Munson steamship Mobila, subject to quarantine regulations.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

New England Mill Men.

The eightieth meeting of the New England Cotton Manufacturers' Association will be held in the Massachusetts Institute of Technology, Boston, April 25 and 26. Addresses will be made by Hon. Eben S. Draper, lieutenant-governor of Massachusetts; Hon. James Wilson, Secretary of Agriculture; John Smethurst of Manchester, England; Frederick P. Fish, president American Telephone & Telegraph Co., and Dr. Henry S. Pritchett, president of the Massachusetts Institute of Technology, in addition to a large number of papers on technical subjects. An interesting feature of the gathering will be the attendance of representatives of the English textile interests, Messrs. W. H. Macalister of Oldham, W. J. Orr, of Rockdale, George Moores of London and Henry P. Greg and John Smethurst of Manchester.

To Continue the Madison Plant.

Some time ago reference was made to the purchase of the Madison Manufacturing Co. of Huntsville, Ala., by Capt. Milton Humes, and subsequent reports stated that extensive enlargements were planned. It can now be authoritatively stated that a new company will continue the plant, putting its 15,000 spindles and 525 looms in operation within 30 days, producing light-weight duck, eight ounce and less. It is proposed to expend from \$30,000 to \$50,000 for new machinery and building tenement cottages, but the details have not been decided. The mill is now being examined to determine what is best to be added to the present equipment. Mr. J. L. Hand of the Pelham Manufacturing Co. of Pelham, Ga., will be president.

The Magnet Knitting Mills.

Some weeks ago the MANUFACTURERS' RECORD referred to the incorporation of the Magnet Knitting Mills of Clinton, Tenn., capitalized at \$30,000. The company has since organized, electing S. M. Leath, president; W. W. Underwood, secretary-treasurer, and Paul F. Vogel, manager and buyer. It has awarded contracts for erecting buildings and installing machinery. The main building will be two stories high, 45x140 feet, boiler and engine room 45x138 feet, with finishing-room and dye-house. There will be installed 60 knitting machines, 12 ribbers, 12 loopers, two embroidery machines and dyeing and finishing equipment. This plant is expected to be ready for operation by June.

The Pelham Enlargement.

In order to provide sufficient space for the 6500 spindles additional for the Pelham (Ga.) Manufacturing Co., referred to last week, that company will erect an addition 105 feet wide by 172 feet long, of standard mill construction, two stories high. The company acts as its own engineer, and has awarded contracts for the machinery to the Kitson Machine Shop of Lowell, Mass.; the Lowell (Mass.) Machine Shops and the Mason Machine Works of Taunton, Mass.

The Pioneer Cotton Mill.

A meeting of the stockholders of the Pioneer Cotton Mills Co. of Guthrie, O. T., referred to last week as incorporated,

has resulted in the election of W. H. Coyle, president; Frank Dale, vice-president; Robert Sohlberg, secretary; F. O. Lutz, treasurer, and Jacob Douglas, general manager and superintendent. The company has secured site for the plant and will soon determine other details. It is probable that an equipment of 5000 spindles will be installed. The company's capital stock is \$150,000.

Hosiery Manufacturers.

The annual convention of the National Association of Hosiery Manufacturers will be held at Philadelphia in May, and in connection with it it is proposed to hold for one week an exhibition of the output of manufacturers who cater to hosiery makers in the way of knitting machines and their accessories, yarns, dyestuffs, boxes, stamps, etc. Details of the exhibit are being arranged by Mr. C. B. Carter, secretary-treasurer, Knoxville, Tenn.

Proposed Silk Mill.

It is reported that plans have been completed providing for the organization of a branch of the Klotz Throwing Co. of Cumberland, Md., and Carbondale, Pa., for the location of a silk mill at Lonaconing, Md. This proposition has been under consideration for some weeks, and was previously referred to in this column. Lonaconing investors are said to have subscribed to \$40,000 of bonds in order to secure the enterprise.

The Whittier Mills.

Messrs. Paul Butler of Lowell, Mass., Clifford L. Anderson and W. R. B. Whittier of Atlanta, Ga., have incorporated the Whittier Mills with a capital stock of \$500,000, and privilege of increasing to \$1,000,000. This company has an established plant of 10,000 ring spindles, 100 braiders and accompanying apparatus, located at Chattahoochee, near the Chattahoochee river, in Fulton county, near Atlanta.

The Rome Hosiery Mills.

Rapid progress has been made at Rome, Ga., with the rebuilding of the Rome Hosiery Mills, which was destroyed by fire some time ago. The company has a modern building in which it is installing 107 knitting machines and accompanying apparatus for the manufacture of women's hosiery, dyeing the product in its own dye-house built for the purpose. Steam power is used. The company is capitalized at \$25,000.

To Install 7000 Spindles.

Mr. J. W. Cannon, who is president of the Cannon Manufacturing Co., Concord, N. C., was mentioned last week as having purchased the old Coleman Mills. It may now be stated that he has definitely decided to equip the buildings with new modern equipment, 7000 spindles to be installed for manufacturing yarns. Messrs. J. W. Cannon & Son will be the title of the operating firm.

Trenton Cotton Mills.

In reference to reports that the Trenton Cotton Mills of Trenton, Tenn., will enlarge its plant, it may be said that certain betterments to cost \$20,000 are contemplated. The company is considering the installation of new carding and picking machinery and boilers. It has 6000 spindles, 160 looms and other equipment in operation at present.

Textile Notes.

The Albany (Ga.) Business League is promoting the organization of a stock company to build a woolen mill.

Mr. Goodrich Hatton of Portsmouth, Va., has purchased the Piedmont Knitting

Mills for \$6000. He has not determined whether he will operate the plant or not.

The Sedalia (Mo.) Woolen Mills is making improvements to its plant, mainly to better the class of product—cassimeres, blankets, ladies' dress goods, etc. These improvements will include new offices, new wet-finishing room, new wet-finishing and drying machinery, etc., and negotiations for the equipment are now being closed.

COTTONSEED PRODUCTS.

Progress Made by the Industry During the Past Five Years.

During the past five years the capital invested in the cottonseed-oil and cake industry in this country has more than doubled and the value of the products has increased nearly 65 per cent. Preliminary figures of the census bureau make the following comparison:

	1905.	1900.	P. ct. of inc.
Number of establishments.....	715	369	93.8
Capital.....	\$73,171,407	\$34,451,451	112.4
Salaried officials, clerks, etc.:			
Number.....	3,229	1,569	105.8
Salaries.....	\$3,062,157	\$1,579,252	93.9
Wage-earners:			
Average number.....	15,539	11,007	41.2
Wages.....	\$4,537,694	\$3,143,459	53.9
Miscellaneous expenses.....	\$5,860,157	\$2,433,912	99.7
Cost of materials used.....	\$80,030,963	\$45,165,823	77.2
Value of products.....	\$96,407,621	\$58,726,632	64.2
Cottonseed products:			
Seed crushed:			
Tons.....	3,382,370	2,479,386	36.4
Cost.....	\$51,573,604	\$28,632,616	81.2
Total value of products.....	\$69,406,463	\$42,411,835	63.6
Oil, Crude:			
Gallons.....	133,817,772	93,325,729	43.4
Value.....	\$31,341,912	\$21,390,674	46.5
Meal and Cake:			
Tons.....	1,360,172	884,391	53.8
Value.....	\$27,766,556	\$16,030,576	73.2
Hulls:			
Tons.....	1,213,344	1,169,286	3.8
Value.....	\$5,588,514	\$3,189,354	75.2
Linters:			
Pounds.....	117,792,969	57,272,053	105.7
Value.....	\$4,613,342	\$1,801,231	156.1
All other products.....	\$95,839

*Exclusive of \$1,444,365, value of oil, meal, linters and hulls produced by establishments engaged primarily in the manufacture of fertilizers and slaughtering and meat-packing.

The statistics are really a comparison of the year ended December 31, 1904, with that ended May 31, 1900. The fiscal year of many of the establishments engaged in this industry ends during the fall. The establishments were given the option of making their reports for the fiscal year or for the calendar year covered by the census. Therefore, the statistics for all of the establishments do not cover the same period of 12 months.

One of the interesting features of these statistics is the quantity and value of the cottonseed crushed and the quantity and value of the primary products obtained from the seed. These primary products are subjected to further manufacturing processes, the crude oil being refined and large quantities of the other products used in the manufacture of fertilizer, cattle feed, etc. The total value of the primary products was \$69,406,463, which includes all products obtained directly from the cottonseed. The \$96,407,621 shown as the gross value of the finished products of all establishments engaged in the industry includes the duplications incident to the remanufacture, such as the refining of crude oil and the production of feed and fertilizer.

Congressman Small of North Carolina has introduced a bill providing that \$3,000,000 of the money hereafter arising from the sale of public lands, which would otherwise become a part of the reclamation fund, may be used to construct a system of drainage for the Dismal swamp in Virginia and North Carolina.

A floating dry-dock with a capacity of 4200 tons and costing \$125,000 was launched Saturday at the shipyards of the Merrill-Stevens Company, Jacksonville, Florida.

PHOSPHATES

Large Fertilizer Plant.

An important industrial undertaking has recently been launched at Nashville, Tenn., by the temporary organization of the Interstate Phosphate Co., whose purpose it is to establish a large fertilizer plant for the manufacture of acid phosphate and fertilizers of all kinds. The present capital of the company is \$30,000, to be largely increased upon complete organization, which will probably be effected within a few weeks, when application will be made for a charter of incorporation. Options have been secured on two sites, one of which will be purchased for the location of the plant and its erection begun when this detail has been determined. A frame building 100x180 feet will be constructed and equipped to have an annual capacity of from 25,000 to 30,000 tons. Plans for the building are already in the hands of the contractor. Officers for the company have been elected as follows: Albert Strickland of Cartersville, Ga., president; T. W. Pratt of Huntsville, Ala., vice-president, and William D. Rhea of Nashville, secretary and treasurer and general manager. Messrs. Rhea and Pratt will form the executive committee. There is also a board of directors having seven members from five States.

Virginia-Carolina Chemical Co.

At a meeting of the directors of the Virginia-Carolina Chemical Co., held last week in New York, the regular quarterly dividend of 2 per cent. was declared on the preferred stock, payable April 16. Books will close March 31 and reopen April 16. An official of the company is reported as saying that it is doing 15 per cent. more business than ever before in its history, and by the close of the fiscal year, which ends June 15, the total business done during the year is expected to amount to about 10 per cent. more than in any previous year. It is stated that conditions in the South are more favorable than ever before, and the company is shipping an average of 1200 carloads daily, which could easily be increased to 1400 cars per day if an adequate car supply were available.

Jefferson Fertilizer Co.

The Jefferson Fertilizer Co. of Birmingham, Ala., has been incorporated with a capital stock of \$250,000 and is authorized to begin business as soon as \$150,000 shall have been paid in. It is said to be the intention of the company to make arrangements at once for beginning operations, some of the plans to this end having been perfected. Officers and directors of the company are: Messrs. J. G. Whitfield, president; J. W. Donnelly, vice-president; Henry B. Gray, secretary and treasurer; George A. Blinn, W. W. Crawford, J. B. Cobbs, A. W. Nelson, Bertram Jacobs, E. H. Levi, Richard W. Massey and G. B. McVay.

Fish Fertilizer Factory.

The MANUFACTURERS' RECORD is advised that the Gulf Coast Fisheries Co. of Biloxi, Miss., recently incorporated with a capital stock of \$20,000, will establish a plant for the manufacture of fish scrap and fish oils, etc., to have a capacity of 50 tons per 10 hours. William Gorenflo is president; J. A. Broadus, secretary-treasurer, and the American Process Co. of New York, engineer in charge.

Within 25 miles of Lakeland, Fla., are nine plants whose output exceeds 500,000 tons of phosphate rock annually. A tenth plant is soon to be installed there.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

North Carolina Pine Association.

The annual meeting of the North Carolina Pine Association, representing lumber manufacturers of North and South Carolina, Virginia and Maryland, was held at Norfolk, Va., last week. Addresses were made by Prof. Gifford Pinchot and W. F. Sherpence, both of the forest service at Washington, D. C. Professor Pinchot spoke more especially on general forestry and its importance to the lumber industry, while Mr. Sherpence spoke of creosoting woods, principally pine, for use as ties, posts, crossarms, etc. The following officers and directors were elected:

President—E. C. Fosburgh, Norfolk.

Virginia Vice-President—R. J. Camp, Franklin.

North Carolina Vice-President—J. A. Wilkinson, Belhaven.

South Carolina Vice-President—D. T. McKeithan, Lumber.

Treasurer—W. B. Roper, Norfolk.

The following directors were elected:

Virginia—R. J. Camp, Franklin; A. B. Cramer, Suffolk; E. C. Fosburgh, Norfolk; Frank Hitch, Norfolk; W. P. Jackson, Salisbury, Md.; J. T. Deal, Norfolk; C. R. Johnson, Norfolk; R. S. Cohn, Norfolk; George W. Roper, Norfolk; G. W. Truitt, Capron; B. E. Cogbill, Boynton; W. M. Whaley, Norfolk; J. L. Camp, Franklin; G. Serpell, Norfolk.

North Carolina—E. M. Wiley, New York, N. Y.; J. B. Blades, Elizabeth City; Horton Corwin, Jr., Edenton; J. Sam Wright, Boardman; John Arringdale, Wilmington; George T. Leach, Washington; George W. Jones, Norfolk, Va.; John A. Wilkinson, Belhaven; Dennis S. Briggs, Williamston; J. W. Johnson, Roford; Clyde Eby, Newbern; S. M. Lloyd, Norfolk, Va.; C. W. Monger, Newbern; Joseph G. McNeil, Garysburg; J. L. Brown, Chadburn.

South Carolina—D. T. McKeithan, Lumber; William Godfrey, Cheraw; R. J. Alderman, Alcolu; H. J. McLaurin, Jr., Sumter; G. J. Cherry, Charleston; H. T. Tilghman, Sellers; H. L. Scarborough, Sumter; Maxwell Anderson, Charleston; W. H. Hickman, Lynchburg; W. B. Wilson, Cades; T. W. Boyle, Greelyville; J. J. Fleetwood, Charleston.

Lumber for France.

Discussing the possibilities for American lumber in France, United States Consul-General Skinner at Marseilles writes:

"Why American exporters have not, as a rule, been able to sell lumber directly to Marseilles importers, who are generally entirely reliable commercially, I do not undertake to say. The latter report to me that their occasional efforts to make closer terms by direct importations have resulted so frequently in loss, usually because of unsatisfactory deliveries, that they are now coldly inclined toward American offers. Most American pine reaches Mediterranean ports from the South. One cargo was received from Oregon about 10 years ago. The objection to importation from Puget Sound is the difficulty of disposing of such large cargoes as are necessarily sent from that remote region, whereas small vessels can profitably make the voyage between Southern and Mediterranean ports. The importation of pine has decreased somewhat since 1901 on account of the advance in price. At the present time the difference in price between pitch pine and oak in this market is not very great, and consequently buyers are disposed to pay a little more and secure the hard wood. There has been a sharp rise in price during the last three

months, and the total advance since 1901 is about 50 per cent."

Acquires Big Timber Holdings.

Dispatches from Lake Charles, La., announce that the Long-Bell Lumber Co. of Kansas City, Mo., has closed negotiations in that city for the purchase of all mills, tramroads and timber lands of the Bradley-Ramsey Lumber Co. for a consideration of about \$4,000,000, the transfer to be executed as soon as necessary abstracts are prepared. Included in the sale are the Mt. Hope and Michigan mills, located at Lake Charles, La.; a planing mill, the Lake Charles Chemical Co.'s plant for utilizing the waste products from these mills, the Lake Charles & Leesville narrow-gauge railroad, extending north from Moss Bay about 30 miles, tugs and barges and about 105,000 acres of timber lands, of which 65,000 acres are virgin. It is stated that the Lake Charles & Leesville Railroad will probably be relaid with heavier rails, made standard gauge and extended into Lake Charles. Milling operations at that city will be under the management of J. H. Woodring of St. Louis.

Stave and Lumber Plant.

With reference to its incorporation with a capital stock of \$25,000 to manufacture timber products, recently reported, the Kanawha Stave & Lumber Co. of Charleston, W. Va., informs the MANUFACTURERS' RECORD that it will erect and equip mill and loading sheds at Odell, W. Va., to cost about \$3000. The plant will have a capacity of approximately 1000 split staves, 7000 sawn staves and 12,000 feet of lumber per day. Officers of the company are Messrs. A. M. D. Hershberger, president and general manager; S. J. Smith, vice-president, and I. E. Hodge, secretary and treasurer. Mr. W. L. Hershberger of Kester, W. Va., is the architect and engineer in charge of construction.

Timber-Land Development.

The Lakeview Lumber Co. of Lakeview, N. C., will probably develop under contract 2000 acres of long and short leaf pine timber lands near Lakeview on the Seaboard Air Line Railway, and contemplates the purchase of a tract of 1000 acres additional which practically adjoins the property referred to. A saw-mill of 15,000 feet daily capacity is now being installed, while a second plant of like capacity will probably be established later. A part of the output of these plants may be handled by dry-kilns to be established at Lakeview by J. R. McQueen. Mr. W. J. Tally of Sanford, N. C., and associates are interested in the Lakeview Lumber Co.

Buys Big Timber Tract.

Confirming reports from Jonesville, Va., that he has purchased a tract of timber from F. M. Pennington, Mr. H. O. Spangler of Bluefield, W. Va., advises the MANUFACTURERS' RECORD that he has bought a tract of timber containing about 1500 acres, located on the Black Mountain Railroad, near Pennington, Va., and about eight miles from Jonesville. It is estimated that this tract will cut from 8,000,000 to 10,000,000 feet, principally all white oak of good quality and large average. Development of the property will be done by contract, and two portable mills, each having a daily capacity of 10,000 feet, will be located on the tract.

Shipment of Barrel Hoops.

Early in April it is expected that the bark Alexandra will leave the port of Galveston, Texas, with a full cargo of barrel hoops for Buenos Ayres, Argentine Republic, South America. The hoops were cut in the forests of Texas and Arkansas,

and will be used for the construction of wine barrels, the shipment to be handled by Messrs. Langbehn Bros., to whom the vessel was consigned. It is regarded as of much importance to the trade of Galveston, as it is the first shipment of the kind out of that port.

Retail Lumber Dealers.

The Mississippi-Louisiana Retail Lumber Dealers' Association met at Jackson, Miss., on Tuesday of last week in a two-day session, the occasion being its regular semiannual convention. Several matters of more or less interest were considered, among them the advance in prices, which has recently been ordered by wholesale dealers and manufacturers. President B. A. Tucker of Senatobia, Miss., and Secretary W. G. Harlow of Yazoo City were both in attendance.

Lumber for Sabine Channel.

The first consignment of creosoted lumber to be used in the construction of the Sabine channel has been shipped from Galveston, Texas, to Port Arthur. The lumber is brought from East Texas to Galveston by rail and creosoted before being shipped to Port Arthur. A total of more than 240,000 feet will be shipped on the contract, the shipment referred to consisting of about 90,000 feet.

Big Mill Nearing Completion.

Construction of the saw and planing mill of the F. McDonald Lumber Co., in course of erection at Maryville, Ky., is progressing rapidly, and will be completed by April 1, to have a capacity of 8,000,000 feet of lumber annually. The company owns the timber on 13,000 acres of timber land in various parts of East Tennessee.

Alabama Lumbermen.

The Alabama Lumber Manufacturers' Association has elected as officers for the year: President, L. A. Boyd, Richburg; vice-presidents, P. B. Ray, Pine Hill; D. H. Marbury, Marbury; J. D. Henderson, Sanford; J. W. Hunnicutt, Vick, and A. L. Kelly, Slocumb; secretary and treasurer, J. H. Eddy, Birmingham.

Lumber Notes.

Messrs. Logan & Maphet of Knoxville, Tenn., have purchased 2,000,000 feet of timber in the Smoky mountains near the North Carolina line.

The W. L. Clement Lumber Co. of Cheraw, S. C., is filling an order from the Atlantic Coast Line Railroad for 23,000,000 feet of oak lumber.

Thirteen carloads of walnut logs were shipped from Stroud, O. T., to Germany last week, and eight carloads were shipped from Depew, O. T., to the same country.

At Mobile, Ala., last week 1800 pieces of saw timber, averaging 33 cubic feet, sold for 30 cents per foot, which is said to be the highest price ever paid for sawn timber on that market.

Building permits issued for the first 15 days in March represent a total value of \$82,165, exceeding the estimated value of permits issued during the entire month of March, 1905, by \$5165.

City Building Inspector James Wahrenburger of San Antonio, Texas, for the fiscal year beginning June 1, 1905, to March 1, 1906, has issued 1398 building permits, representing an estimated value of \$746,992.

A call has been issued for the annual meeting of the stockholders of the Naval Stores Export Co., to be held in Jacksonville, Fla., on April 10, for the purpose of hearing detailed reports as to the affairs of the company for the fiscal year ending April 1.

MINING

Complete Organization.

Stockholders of the Dominion Coal Co., recently incorporated with a capital stock of \$50,000 for the purpose of developing coal properties in the Black Mountain section of Lee county, Virginia, met in Cincinnati on Tuesday of last week and completed organization by the election of the following officers and directors: Messrs. H. Lee Early, president; R. P. Gillham, vice-president; Burke H. Keeney, secretary and general manager; August Ferger, treasurer; E. C. Arnold, C. A. Hirsch and George H. Keeney, all of Cincinnati with the exception of Messrs. Burke H. Keeney and A. I. Miller, who are residents of Middlesborough, Ky. The holdings of the company embrace an area of about 700 acres of coal land, which is said to contain a very desirable grade of bituminous coal. The property is traversed by the Black Mountain Railway, and its development will be pushed as rapidly as possible.

Two West Virginia Companies.

Messrs. H. C. Duncan, Jr., W. K. Cowden and George S. Wallace of Huntington, W. Va.; R. B. Bias and Claude I. Gaujot of Williamson, W. Va., have incorporated the Horsepen Coal Co. of Williamson, with a capital stock of \$50,000, to mine coal and manufacture coke, etc.

The Great Kanawha Colliery Co. of Macdonald, W. Va., has been incorporated with a capital stock of \$100,000 for the purpose of mining coal, etc. Incorporators of the company are Messrs. James W. Smiley, Samuel Dixon, William K. Smiley, Robert H. Martin, John T. Serey, Harry A. Beck and H. M. Burke of Macdonald, Addison C. Burnham, George Hawley and Harold B. Pond of Boston, Mass.

Coal-Lands Development.

The LeRoy Coal Mining Co. of Preston, W. Va., has recently been incorporated for the purpose of developing 900 acres of coal lands containing the cannel and splint varieties. A mining plant will be installed at an expenditure of from \$28,000 to \$30,000 to have a capacity of 500 tons per day. Officers of the company are Messrs. C. V. LeRoy of Preston, president and general manager; Charles R. LeRoy, Dingess, W. Va., vice-president; W. T. Cook, Dingess, W. Va., secretary; Harry C. LeRoy, Huntington, W. Va., treasurer; Henry Mace Payne, Williamson, W. Va., engineer in charge. Practically all necessary supplies for the plant have been purchased.

Big Purchase.

Dispatches from Pittsburg, Pa., state that Messrs. W. H. Taylor of Wellsburg, W. Va., and A. E. Cox of Huntington, W. Va., representing Pittsburg and West Virginia capitalists, have closed negotiations for the control of about 100,000 acres of coal lands in Lawrence and Gallie counties, Ohio, and Cabell and Mason counties, West Virginia, for a consideration of \$3,500,000. In addition to the coal, it is stated that the purchasers have also secured the oil and gas rights.

Steam Coal Wanted.

Messrs. John O. Moore & Bros. of Culverton, Ga., want prices on steam coal for present and July delivery f. o. b. cars Culverton.

The Chattanooga (Tenn.) Chamber of Commerce at its last meeting adopted a report of its immigration committee embodying plans to enlist the railways in a concerted movement for immigration to the Chattanooga district.

MECHANICAL

New Reinforcement for Concrete.

The continued increase in the construction of buildings of reinforced concrete has caused many well-known engineers who are well versed in the subject to make a closer study of the various forms of reinforcement used in this method of construction. The latest invention along these lines is that of J. F. Golding, the inventor of expanded metal, who has de-

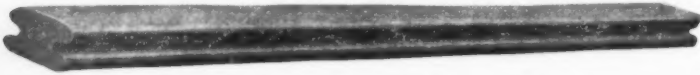


FIG. 1.—NEW REINFORCEMENT FOR CONCRETE.

signed a new form of reinforcement known as Monolith steel bars. Before Mr. Golding announced the new system as developed by him it happened that Capt. John Stephen Sewell, United States army, before a meeting of engineers and architects recently held in Washington, read a paper, from which the following is taken:

"Considering the question of design first, it will be remembered that for some time reinforced concrete was applied mainly in the form of slabs, extending from wall to wall, or from beam to beam, with a metallic mesh or numerous small bars imbedded near the bottom to supply the tensile strength not found in the concrete. It was soon found that for large spans there was a large amount of concrete below the neutral axis, which was, to all intents and purposes, but dead weight. The metal was then concentrated into numerous relatively narrow ribs supporting a thin slab; from this to the use of regular beams and girders of reinforced concrete, with wide spacing, and slabs spanning these intervals, with reinforcement of their own, was but a step. This form of construction eliminates all rolled beams and girders from a floor system and effects a notable saving. But with deep and narrow beams a trouble arose that rarely manifests itself in a well-designed slab of moderate span. Hitherto the aim had been to make a beam or slab secure against transverse rupture at the center. This was nearly always the mode of failure of slabs, unless they contained a very large amount of steel; even then failure usually resulted by crushing the concrete at the center of the span. But the deeper and narrower beams began to fail by diagonal cracks near the ends long before the limit of resistance had been reached at the center. These cracks usually started near the abutments at the bottom of the beam and inclined upwards and towards the center at an angle of about 45 degrees. They were due to the existence of tensile stresses in the beam making an angle with the horizontal. In homogeneous beams the fact that the lines of principal tensile stress under uniform loads were horizontal only at the center of the span and inclined near the ends was well known, but the fact that analogous conditions must exist in reinforced concrete beams was not at first clearly recognized. In simple flat slabs the sectional area of concrete, compared with the loads, is so considerable that the vertical component of the tensile stress and the shear are generally within the limit of resistance of the material, but in deep and narrow beams the total stresses are much increased, while the sectional area of concrete is much diminished, so that oblique tensile stresses—or, as the writer prefers to call them, by analogy with a plate girder, the tensile web stresses—and the shear are often the initial cause of failure. . . .

"It now seems simple enough to say that not only must oblique web members be used, fastened to the main bars without

assistance from the concrete, but that they must extend entirely to the top of the beam and be spaced more closely near the ends of the span in the same way as the rivets connecting the web and flanges of a plate girder are spaced, or else that they must increase in area of cross-section near the ends in a manner analogous to the increase in the main braces of a bridge truss as the abutments are approached. The writer is convinced that this embodies the complete and essential theory of reinforced concrete girders and beams, and that as

time goes on it will receive general acceptance, just as all bridge designers now proceed on the same general lines, differing from each other only in minor details in applying the same fundamental principles. The complete solution, in the case of reinforced concrete, requires that the web members shall be capable of being applied in variable lengths and with variable spacing to the same main bar. It can easily be shown that for a given span and load the total weight of web members remains the same, regardless of the depth of the beam, while under the same conditions the weight of the main bars decreases as the

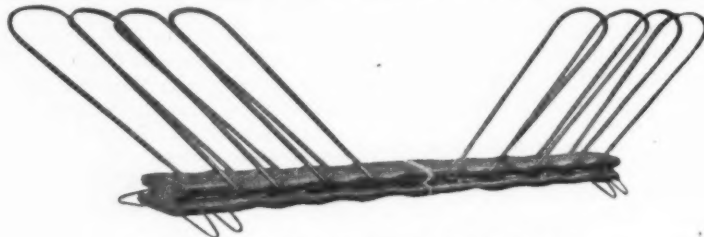


FIG. 2.—NEW REINFORCEMENT FOR CONCRETE.

depth increases. Nor is it sufficient to use a number of main bars and turn some of them up at various points. This results in decreasing the total section of the horizontal members too rapidly. The distribution of the web members is not in proportion to the stresses, nor do they transmit their stresses into the proper portion of the horizontal reinforcement. Each main bar must have its own complete and independent set of web members, rigidly attached and so designed as to take up the web stresses due to the stress in their own main bar at the points where these stresses actually exist. They should extend in all cases entirely to the top of the beam, and be there provided with some form of anchorage or mechanical bond if possible. This reduces a reinforced concrete beam to what is practically a solidly-built truss, in which all tensile members are of steel connected with each other without assistance from the concrete.

"The lines of compressive stress through the concrete mark out the compressive members. The only place where adhesion is relied upon to transmit stress from concrete to steel is in the upper ends of the web members; as these are imbedded in the compressed part of the concrete, the adhesion increases with increased loads, instead of diminishing, as is the case in the lower part of the beam.

"Beams, girders and floor slabs are not the only necessary members of a structure, however. Columns also must be used. The logical line of development here seems to be undoubtedly the hooped column of M. Considere. In the writer's judgment, it will be easily possible to make such columns in which a comprehensive stress of 1000 pounds per square inch may be safely allowed in the concrete. The shortening due to such a stress as this will easily develop stresses of at least 16,000 pounds

per square inch in any longitudinal reinforcing bars. Such bars must be used to prevent danger of buckling in any case. If the column must be kept small, they can be increased almost at will, provided they are all kept within the hooping. In this way, by utilizing the strength of both elements in compression, columns may be built which will be much smaller than timber columns and at least no larger than fireproofed steel columns of the same length. The connection of the columns with the other members, however, is a problem of very serious importance. It is here that the ingenuity of the designer has the best opportunity to show itself. The connection of column to column is also a serious problem. The writer has yet to see a solution that is ideal in all respects, but he does not doubt that such solutions will be soon forthcoming, to judge from the present rate of progress."

Turning from Captain Sewell's argument to Mr. Golding's new form of reinforcement, herewith illustrated, it will be seen that the main elements are side-grooved bars. The grooves in the bars are for the purpose of providing means for rigid attachment of the round rod stirrups or other members in beams or for clamps or ties in columns and studding. As will be seen, the connection is made simply by inserting the wire in the groove and then clamping it by pressing the lips of the

groove together in a press. Referring to the drawings, Fig. 1 shows a plain grooved bar for a beam; Fig. 2 shows the webs attached for reinforcement of beams, etc., and Fig. 3 shows two main bars with lateral webs as may be used in reinforcing heavy flat slabs, floors, etc. These are only a few of the combinations that are possible, but they indicate clearly the possibilities. The bars are made in four sizes, giving cross-sections equal to one-half, eight-tenths, one, and one and one-half square inches, respectively.

The Monolith Steel Co., Inc., Colorado

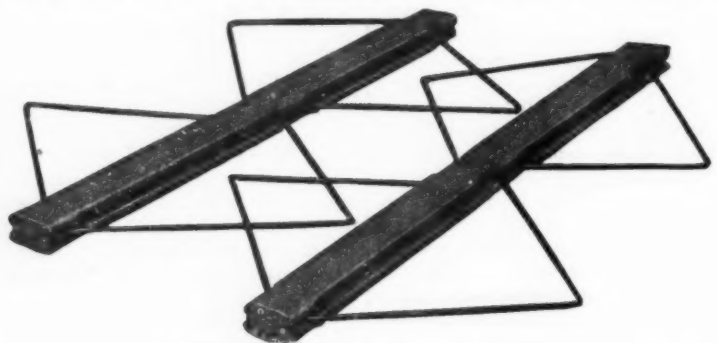


FIG. 3.—NEW REINFORCEMENT FOR CONCRETE.

Building, Washington, D. C., is the assignee of Mr. Golding's patents.

The United Concrete Mixer.

The great object of concrete-mixing machinery is the saving of labor and time. Concrete mixing is pretty generally understood today, but it will not be out of place here to mention that there are five principal operations—laying out and measuring the batch of aggregates, feeding this batch to the mixer, mixing in the machine, discharging the mixed concrete from the mixer and placing the mixed material in

the forms. The maker of concrete-mixing machinery purely is mainly interested in the second, third and fourth operations. The question of feeding is one that is generally influenced by local conditions. The style of the chute of the concrete mixer, its accessibility or nearness to the ground and convenience to the feeding mass all help to determine the cost of this operation. The style of the mixing drum and the blades or mixing means in its interior influence the cost of mixing the material and the time required in the performance of this operation. The style of the discharging chute or the means of discharging the mixer drum is a large factor in saving time in placing the concrete.

In introducing the United Concrete Mixer, illustrated herewith, certain improvements over other tipping mixers were aimed at. It was desired to produce a machine in which the larger part of the energy developed by the engine would be exerted on the concrete in the drum and less lost in the gearing between the engine and the drum; to produce a more compact machine that would occupy less floor space; to have a machine that would discharge more conveniently from a high point and charge at as low a point as possible; to eliminate the slow hand-power tipping apparatus and replace the same by a tipping means which should be operated by power at a much higher rate of speed, and which should be more thoroughly under control at all times; to make a better form of drum, a better general design and better protection for the moving parts.

With this end in view a machine was designed consisting of a sheet-steel drum, cylindrical at one end and pyramidal at the other, this drum being held by a light cast-iron ring, which was so supported that it could roll forward and tip, much as is done in the case of a foundry ladle. In order that as little power as possible should be used between the engine and rotating drum, the engine is fastened to the cast-iron ring in such a way that it tips with the drum, and is connected to the driving gear of the drum by spur gears only, thus cutting out the complicated bevel-gear transmission which is ordinarily used, making possible a considerable saving in power, a greater simplicity and less danger of breaking. The fact that the engine is mounted on the tipping frame also makes a more compact machine, occupying less floor space.

When the drum tips to discharge its load of mixed concrete it rolls forward on

a track like a foundry ladle and brings the point of dumping well away from the frame of the machine, making a convenient space for placing the buckets of skips for receiving the mixed material and making it possible to use a comparatively short drum.

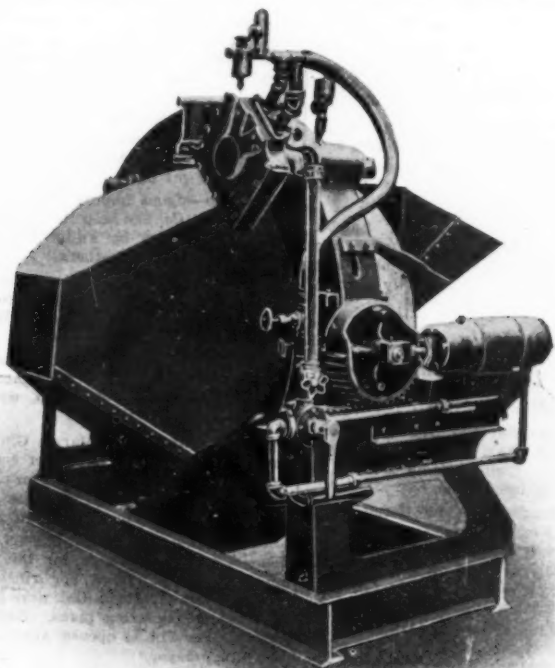
The United machine has a means for tipping operated by steam power and controlled by a small lever. Thus the operator by moving one finger, so to speak, can tip the machine, heavy as it is when filled with wet concrete. This method is convenient, rapid and a money-saver. It

allows the operator to dump either a wheelbarrow load or a cart load, since he is able to handle the drum so readily and rapidly. The power mechanism is simplicity itself, consisting of a steam cylinder connected to the tipping frame and controlled by a small valve which admits steam to either end.

The design of the United drum is the result of long experience in concrete-mixing machinery. The amount of material

held in a patented stuffing-box, so that no dust can get into the bearing. Each journal runs in a bronze bushing and is self-oiling. Once the bearing is filled with oil it will run from one to two weeks without attention.

This United machine is the invention of Frank B. Gilbreth, the well-known contractor, and is being introduced by the United Concrete Machinery Co., offices in the Flat Iron Building, 949 Broadway,



THE UNITED CONCRETE MIXER.

the common forms of drums—double-ended cone and tube—will hold is that which can be placed in the drum up to the openings for charging and discharging. The same is true of the United drum, with the exception that while the front end of the drum is pyramidal in shape the rear end is cylindrical, making it possible to hold considerably more material in comparatively the same sized drum; in fact, this style of drum combines the advantages of the well-known cylindrical type and the well-known cubical box mixer. The United mixer drum is so designed as to combine the good points of the cube mixer with the good points of the cylindrical style of mixer.

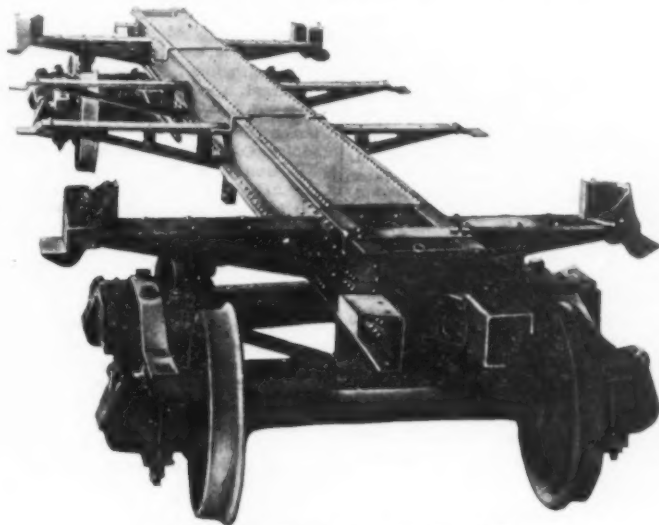
It may be said that the fewer properly-designed blades there are in a drum the better the mixer; there are fewer parts to become clogged. The blades in the United drum are so placed as to give this "side-to-side" motion of the material, and they are also designed so as to lift the material high in the interior of the drum, then thoroughly mixing it by throwing it violently into the mass below. They are made large enough so that they impart a large amount of energy from the engine to the mass being mixed, and are intended to use power and mix quickly. The United mixer is so designed that instead of plowing through the material it lifts it high and violently casts it down into the mass. It does use the power produced by the engine where it should be used, and that is, on the mass of concrete in the drum, and not on the gearing outside; consequently, better and quicker mixing.

In designing the United mixer the destructiveness of cement, sand and stone to machinery was considered and the journals, bearings, etc., are built so as to prevent abrasion, wear, etc. The United bearings are packed with fibrous material

held in a patented stuffing-box, so that no dust can get into the bearing. Each journal runs in a bronze bushing and is self-oiling. Once the bearing is filled with oil it will run from one to two weeks without attention. This United machine is the invention of Frank B. Gilbreth, the well-known contractor, and is being introduced by the United Concrete Machinery Co., offices in the Flat Iron Building, 949 Broadway,

The Ralston Steel Underframe.

There is now being used a substitute for wooden sills in repairing and building



THE RALSTON STEEL UNDERFRAME.

railway cars. The device is known as the Ralston Steel Underframe, and a view of it is presented by the accompanying illustration.

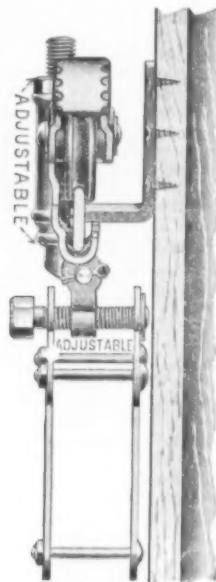
The Ralston Steel Car Co. of Columbus, Ohio, builds this steel-car underframe for converting old-style wood-frame gon-

dolas or flat cars to steel-frame cars. The chief members of the main girder are two 15-inch channels, which run the entire length of the car and are notched at the ends and bent down to take the end sills. The top and bottom plates of the girder are one-quarter inch thick and 20 inches wide, and extend from bolster to bolster, with an 11-foot reinforcing plate of the same dimensions completing the box girder.

In applying this sill to old cars the old wooden needle beams are replaced by two needle beams of rather unique construction. The top member is five-eighths inch thick by eight inches wide, and runs through the channel. The lower member is three-quarters inch thick by eight inches wide, and is bent under the channel, forming a truss. The ends of the two members of the truss are securely riveted together and a malleable cast-iron filler block



MYERS' LATEST DOOR-HANGER.



EDGE VIEW.

the bolster would weaken it, but this point is reinforced by a one-half-inch plate, which the builder feels confident strengthens the sills sufficiently to take care of any strain that might come upon this point. It is stated that several of these cars have now been in service for four or five months, and so far have shown no indication of failing to give the service that was expected of them.

Myers' Latest Door-Hanger.

Attention will be attracted to the accompanying illustrations of a door-hanger, showing the latest production in this kind of device by Messrs. F. E. Myers & Bro. of Ashland, Ohio. The firm thus describes the new hanger:

"This is the only hanger on the market that can be adjusted perpendicularly so as to locate the door at any point above the

ground desired, or laterally so as to adjust the door to or from the building, and will also adjust itself to any thickness of door. The perpendicular and lateral adjustments are made with an ordinary wrench, and at the will of the user.

"It combines all the patented features of our original Stayon Flexible Hanger in connection with the special features mentioned above, which are not used on any other make of hanger.

"A reverse or back view of the hanger would show the center bolt and nut, by means of which the door can be raised or lowered at either end independently. This is especially of advantage when the ground is heaved up by frost, thus preventing the door from being moved, and in such cases by adjusting the nut at top of the hanger the door can be raised or lowered to suit the conditions; would also show Stayon feature.

"Herewith is represented an edge view of the hanger, showing the cross-bolt, by means of which the door can be adjusted to or from the building, also its adjustability for different thicknesses of doors."

Southern Ice Manufacturers.

The seventeenth annual convention of the Southern Ice Exchange, an organization of ice manufacturers of the South, is in session this week at Richmond, Va. Among the topics on the program are the accounting system for factories and dealers, the proper form of insurance policies, appraisals, life of ammonia boiler cells, chloride of calcium as a strengthener of salt brine, etc. Officers of the association are Messrs. C. Doran Wingfield of Richmond, Va., president; J. Frank Rushton, Birmingham, Ala., vice-president; William E. Worth, Wilmington, N. C., secretary and treasurer.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

ALABAMA.

Bessemer—Paint Factory.—Rankin-Tuck Paint Co., Birmingham, Ala., mentioned last week as to establish paint factory, will erect four three-story brick buildings, 60x120 feet. Neither architect nor engineer has been engaged. House and structural paints for the jobbing and manufacturing trade are manufactured.*

Birmingham—Land Improvement.—Central Park Land Co. has been incorporated with an authorized capital stock of \$60,000. Robert Jemison, Jr., is president and treasurer, and A. R. Wilkerson, secretary.

Birmingham—Fertilizer Factory.—Jefferson Fertilizer Co. has been organized with J. G. Whitfield, president; J. W. Donnelly, vice-president, and Henry B. Gray, secretary-treasurer; capital stock \$250,000.

Ensley—Coal Mines.—It is reported that the Tennessee Coal, Iron & Railroad Co. has begun the development of coal properties at Booker City, two miles distant. It is stated that a shaft will be sunk to a depth of 700 feet and the most improved mining machinery installed; also a complete electric plant for furnishing power and light; general offices, Birmingham, Ala.; New York office, 100 Broadway.

Florence—Cannery.—W. M. Richardson, W. T. Simpson, H. J. Moore and others have organized company with \$9000 capital stock to establish cannery. It is proposed to erect a main building 32x60 feet; boiler-room, 16x32 feet; warehouse, 32x40 feet; open addition, 32x24 feet. A 40-horse-power steel tubular boiler will furnish the power; daily capacity, 10,000 to 15,000 cans. This enterprise was recently referred to.

Gadsden—Dry-kill.—Southern Manufacturing Co. will begin at once the erection of a brick dry-kill with a capacity of 35,000 feet of lumber daily. A 150-horse-power boiler and 125,000 feet of one-inch pipe will be installed.

Florence—Cotton Gin and Warehouse.—H. McVey Moore has purchased site on which to erect cotton gin and warehouse.

Gadsden—Steel Furnaces.—It is reported that the Southern Steel Co. has begun the construction of two new open-hearth steel furnaces, and that the erection of another coke furnace will be begun in the near future, plans and specifications for this having been accepted. The proposed rod mill, it is understood, will also be built this summer. These additions are in connection with the company's plans for extensive betterments, which were outlined some weeks ago. E. T. Schuler is president.

Gadsden—Saw-mill.—E. G. Cole and associates are arranging for the erection of saw-mill to develop 1000 acres of pine and hardwood timber recently purchased.

Huntsville—Cotton Mill.—A new company will continue the Madison Manufacturing Co., which has a plant of 15,000 spindles and 525 looms. From \$30,000 to \$50,000 will be expended to install new machinery and build more tenant cottages, but full details have not been decided. J. L. Hand of Pelham, Ga., will be president.

Opelika—Ice Plant.—Renfro Ice & Coal Co. has been incorporated with \$25,000 capital stock to establish ice plant with a daily capacity of 25 tons. A three-story brick building 30x140 feet will be erected. Equipment has been purchased. D. S. Robinson is president; Albert Steiner, vice-president, and J. L. Renfro, secretary-treasurer.

Troy—Electric-light Plant.—City will make improvements to electric-light plant, furnishing a day current, and will install a 200-horse-power engine, 150-kilowatt generator. Contracts have all been let. J. E. Sirrine, Greenville, S. C., is engineer in charge.

Tusculum—Ice Factory and Cottonseed-oil Mill.—T. R. Jones and J. C. Sproggins have organized as Jones & Sproggins to establish ice factory and cottonseed-oil mill.

ARKANSAS.

Black Rock—Electric-light and Power Plant.—C. L. Cummings and others of Prairie Grove, Ark., mentioned last week as to establish electric-light and power plant, will operate as the Black Rock Light & Power Co.*

Black Rock—Manufacturing.—Incorporated: N. F. Coffey & Sons Manufacturing Co., with \$20,000 capital stock, by Nathan F. Coffey, Leslie J. Coffey and N. Franklin Coffey, to continue an established plant.

Fort Smith—Coal Mines.—Blocker Coal & Land Co. has been incorporated with \$100,000 authorized capital stock by W. F. Blocker, P. J. Wright, A. N. Sicard, O. E. Caines and associates.

Fort Smith—Lumber Company.—Incorporated: Lane-White Lumber Co., with \$100,000 capital stock, by J. L. Lane, A. P. White, W. R. Abbott, G. O. Worland and Henry L. Fitzhugh.

Fort Smith—Telephone System.—A company has been organized with \$250,000 capital stock by Charles Suttie of St. Louis, Mo., and associates to take over and operate the Pan Telephone Co. Improvements will be made to exchange, including the installation of new switchboard, and the system extended.

Jonesboro—Woodenware Factory.—A. Holt-house, B. G. Lynch, Mary G. Lynch, F. M. Falk and Rosa M. Falk have incorporated the Arkansas Bending Co. with \$50,000 capital stock.

Ladd—Cotton Gin, etc.—J. H. Gregory, Sam Taylor, J. A. Paton and others have incorporated the Jefferson County Land, Gin & Mercantile Co. with \$50,000 capital stock.

Little Rock—Planting Company.—Desha Planting Co. has been incorporated with \$100,000 capital stock by Chris. Ledwidge, W. B. Miller and Frank E. Wiggle.

Prairie Grove—Limekilns.—Excelsior White Lime Co. has been incorporated with \$25,000 capital stock by William Simpson, A. B. Muntun, W. H. Hays and H. D. Woods, all of Fayetteville, Ark.

FLORIDA.

Brooksville—Timber Development.—Reports state that L. B. Sutton and W. D. Mercer of Live Oak, Fla., have purchased a half-interest in a tract of 15,000 acres of timber land, and will arrange at once for the erection of two saw-mills, planing mills and dry-kilns.

De Land—Sewerage System.—City will construct sewerage system if a feasible plan for the disposal of sewerage can be obtained; V. W. Gould, secretary board of health.*

Jacksonville—Sewerage System.—It is re-

ported that Bryan & Co., Forsyth Building, have contract at \$105,243 for constructing drain in Main street.

Jacksonville—Lumber Company.—Jacksonville Lumber Co. has been incorporated with \$10,000 capital stock. R. H. Pail of Watertown, Fla., is president; F. W. Bucky, vice-president, and F. E. Waymer, secretary-treasurer, both of Jacksonville, Fla.

Lake City—Concrete-block Factory.—J. M. Fleider and J. W. Hensley are installing a plant for the manufacture of concrete building blocks.

Live Oak—Sand-lime-brick Plant.—Sand-Lime Brick Co. has been organized with \$25,000 capital stock. T. S. Brisden is president; B. W. Helvenstein, vice-president, and A. L. Humphreys, secretary-treasurer.

Minneola—Saw-mill.—Minneola Lumber Co., recently incorporated, it is reported has purchased 50,000 acres of pine timber land and will erect saw-mill with a daily capacity of 50,000 feet for its development.

GEORGIA.

Albany—Woolen Mill.—Albany Business League is promoting the organization of a company to build woolen mill.

Albany—Horse-collar and Handle Factory.—It is proposed to establish a horse-collar and handle factory. Claude Hennessee, P. O. Box 391, can give information.*

Atlanta—Disinfectants and Germicides.—Chartered: P. Rogowski and L. Steinau have incorporated the American Germicide Co. with \$10,000 capital stock and privilege of increasing to \$100,000 to manufacture and deal in disinfectants and germicides.

Atlanta—Manufacturers' Agents.—T. J. McConnell, W. McConnell and J. L. Kurfees have incorporated the McConnell-Kurfees Company with \$10,000 capital stock and privilege of increasing to \$100,000 to act as manufacturers' agents.

Atlanta—Brick Works.—Porter-Wrigley Company, 1415 Empire Building, will establish plant for the manufacture of a special brick.*

Atlanta—Steel Plant.—Atlanta Steel Hoop Co. has completed the extensive additions to its plant for manufacturing hoops, cotton-ties, bars, bands, light steel rails, etc. These betterments include rod mill, continuous heating furnace, 1200-horse-power engine, etc., for making wide rods, steel hoops, rounds, squares, etc.; wire-drawing and nail plant, which includes cleaning-house, baker, and annealing furnaces operated by Corliss engine; power-house of steel construction, with ample capacity for electric cranes, lights, motors, etc.; two 3-ton open-hearth furnaces and reversible blooming mill, engine, cranes, motors, reheating furnaces, etc., for making billets from one and one-half to four inches square; boiler-house containing 3000 horse-power of boilers, centrally located to supply all the mills; gas producer built of steel containing necessary gas producers to supply the two open-hearth furnaces; warehouses, etc.; all buildings of steel construction. All the mills are operating except blooming mill and steel plant, which will blow in within 60 days.

Barnesville—Cannery.—Chartered: Acme Canning Co., with \$10,000 capital stock, by C. H. Humphrey, W. C. Stafford, J. A. McCrary, H. R. Robertson and associates, to establish fruit and vegetable cannery. Site has been purchased on which to erect the necessary buildings. Messrs. Stafford, Humphrey and associates were previously reported as organizing company for this purpose.

Carrollton—Public Improvements.—City contemplates issuing \$35,000 of bonds for street improvements, completing sewerage system and building city hall; H. W. Long, mayor.

Chattahoochee—Cotton Mill.—Incorporated: Whittier Mills, with capital stock of \$500,000 and privilege of increasing to \$1,000,000, by Paul Butler of Lowell, Mass.; W. R. B. Whittier and Clifford L. Anderson of Atlanta. Company has a plant of 10,000 spindles, 100 braidiers, etc.

Chipley—Water works.—The organization of a stock company is contemplated for the establishment of water works. R. O. Bulloch is chairman of committee.

Columbus—Street-paving.—City will construct about 60,000 square yards of street pavements, and bids for the work will be received until April 2; W. C. Campbell, superintendent of public works.*

Columbus—Paper Mill.—Chattahoochee Pa-

per Mills has been incorporated with \$50,000 capital stock by Charles Phillips, W. H. H. Blankenship, both of Columbus, and C. K. Hartzell of Pittsburg, Pa. C. K. Hartzell and associates were previously reported to establish plant to manufacture manila paper from wood-pulp, and had optioned site on which to erect an ironclad frame building 400 feet long.

Fitzgerald—Publishing.—A. H. Jones, E. H. Jones and C. B. Lee have incorporated the People's Publishing Co. with \$10,000 capital stock.

Griffin—Gas Plant.—City has granted franchise to J. B. McCrary of Atlanta, Ga., and J. B. Haggerty of Americus, Ga., for construction of gas plant.

Lagrange—Land Improvement.—Callaway Development Co. has been incorporated with \$5000 capital stock by Fuller E. Callaway, Pope F. Callaway and others.

Macon—Land Improvement.—Southern Land & Improvement Co. has been incorporated with \$25,000 capital stock by C. S. Woods, R. P. Christian and J. E. Stevens.

Macon—Stock Farm.—W. J. Massee, John T. Moore and associates have incorporated the Idle Hour Stock Farm Co. with \$10,000 capital stock.

Martin—Cotton Gin.—Martin Gin Co. has increased capital stock and let contract to John M. Looney for the erection of modern building to be equipped with the most improved machinery, operating four gins.

Milledgeville—Sewerage System.—City is completing arrangements for the construction of sewerage system, for which J. W. & W. F. Wilcox of Macon, Ga., were previously reported as preparing plans. Bids for the construction will be opened April 12; Julius A. Horne, mayor.*

Pelham—Cotton Mill.—Pelham Manufacturing Co. will erect additional building 105x172 feet in size, standard mill construction, to hold the 6500 new spindles referred to last week. Contracts have been placed for the machinery. The company acts as its own engineer.

Stillmore—Grocery Company.—Stillmore Grocery Co. is being organized with \$10,000 capital stock by W. J. Evans, G. M. Brinson, R. A. Crawford and others.

Waycross—Paint Shop.—Atlantic Car & Manufacturing Co., it is reported, has begun the construction of a 540-foot building to be used as paint shop.

Waycross—Foundry.—It is reported that the Hicks Gas Motor Co., manufacturing gas engines, will install complete foundry at plant.

KENTUCKY.

Ekron—Cannery.—It is reported that a company will be organized to establish fruit and vegetable cannery, and A. C. Crouch is promoting the enterprise.

Henderson—Tobacco Stemmy.—Arthur B. Jarvis has purchased site on which to erect tobacco stemmy.

Louisville—Telephone System.—Central Home Telephone Co., previously reported incorporated to take over, improve and operate various telephone systems in Kentucky and Southern Indiana, has completed organization with E. L. Barber, president; J. D. Powers, treasurer; J. C. Monteth, secretary, and M. B. Overly, manager; capital stock \$5,000,000. W. C. Polk, care of Central Telephone Construction Co., Birmingham, Ala., is engineer in charge.*

Louisville—Table Factory.—Campbell-Weidemann Manufacturing Co. has been incorporated with \$3500 capital stock by Joseph O. Campbell of Louisville, Edward C. Campbell and Louis A. Weidemann of New Albany, Ind., to manufacture table slides, tables, etc. Building has been secured.

LOUISIANA.

Bayou Chicot—Saw-mill.—Bayou Chicot Lumber Co., reported incorporated last week under Opelousas, La., with \$25,000 capital stock, will erect saw-mill with a daily capacity of 25,000 feet of poplar and oak lumber. A building 45x100 feet will be erected. About \$11,000 will be invested.

Halle—Lumber Company.—Starnes Lumber Co. has been incorporated with \$100,000 capital stock. Sanford Manheimer is president, and G. M. Starnes, vice-president.

Homer—Electric-light Plant.—City has granted franchise to Ed Sawyer to install electric-light plant.

Lake Charles—Lumber Plant and Timber Lands.—Long-Bell Lumber Co. of Kansas

City, Mo., it is reported, has purchased the lumber plant and timber lands of the Bradley-Ramsey Company at \$4,000,000. The deal, it is stated, includes the Mount Hope and Michigan mills of Lake Charles, planing mill plant of the Lake Charles Chemical Co., which utilizes the waste product of the two mills; the Lake Charles & Leesville narrow-gauge road, 65,000 acres of virgin timber land and 40,000 acres of timber land that has been partly cut, together with tugs, barges, etc. J. H. Woodring of St. Louis, Mo., will be manager.

New Orleans—Contracting Engineers.—Holmberg Engineering Co., reported incorporated last week, will act as contracting engineers, conducting a general contracting business, making dredging a specialty. P. Holmberg is president; W. Hill Pugh, vice-president, and P. A. Lelong, Jr., secretary-treasurer; offices, 297 Hennen Building.

New Orleans—Bottling Works.—Cosmopolitan Bottling Co., Ltd., reported incorporated last month with \$300,000 capital stock, will erect a three-story brick building, 90x200 feet, and equip for a daily capacity of 5000 dozen bottles of carbonated and distilled waters and artificial mineral waters. About \$100,000 will be expended in building and equipment.*

New Orleans—Oil Refinery.—Consumers' Oil & Refining Co. has been incorporated with \$15,000 capital stock. A. M. Halliday is president; H. R. Fine, secretary-treasurer, and Arthur J. Schneidau, manager.

New Orleans—Lumber Company.—Incorporated: Mt. Vernon Lumber Co., with \$250,000 capital stock. John Dibert is president; John A. Lewis, vice-president, and Sam Henderson, Jr., secretary-treasurer.

New Orleans—Architects and Contractors.—Chartered: De Buys, Levy & Co., Ltd., with \$50,000 capital stock, to act as architects and general contractors. Rathbone E. De Buys is president; Frank G. Churchill, vice-president, and Gordon S. Levy, secretary-treasurer.

Shreveport—Electrical Company.—Ivle M. Watson, W. W. Jones and W. C. Evans have incorporated the Watson Electrical Supply Co. with \$5000 capital stock.

Paulina—Sugar Factory.—It is reported that J. W. Pugh and associates will establish sugar factory with a capacity for grinding 18,000 tons annually, and will organize the Longview Sugar Co. to operate same.

Woodworth—Saw mill.—It is reported that the Rapides Lumber Co. will rebuild saw-mill reported burned at a loss of \$50,000.

MARYLAND.

Baltimore—Bottle-stopper Factory.—The Crown Cork & Seal Co., 1511 Guilford avenue, manufacturer of patented bottle stopper, has awarded contract to John Hiltz & Son, 3 Clay street, for the construction of two additional factory buildings at its branch plant at Highlandtown: one building five stories, 100x262 feet; one building three stories, 50x157.4 feet; brick with granite trimmings; concrete elevator and stairway shafts; mill construction; tin and slag roofs; galvanized-iron skylights; fire-doors; fire-escape; two 15,000-gallon cypress tanks; elevators, heating, plumbing, electric wiring, railroad tracks and grading not included in contract; C. M. Anderson, architect, 324 North Charles street.

Baltimore—Glass-decorating Factory.—Jerome I. Vogeler of the Bonnett-Vogeler Company, glass decorators, 229 Dolphin street, has awarded contract to Frederick Wright & Co., National Marine Bank Building, Gay and Water streets, for the construction of factory building at 1st and Toome streets, Canton; one story, 25x70 feet; brick with slag roof; T. George Carroll, architect, Continental Building, Baltimore and Calvert streets.

Baltimore—Clothing Factory.—Hamburger Bros. & Co., clothing manufacturers, 16-20 South Eutaw street, will erect an addition to their branch clothing factory on East Oliver street; one story, 45x35.4 feet; brick with stone trimmings; slag roof. James Farley, 207 North street; J. H. Miller, 110 Dover street; George Bunnecke & Sons, 305 St. Paul street, and Joseph Schamberger, 2122 East Baltimore street, are estimating on construction. Bids to be in March 29; Louis Levi, architect, American Building, Baltimore and South streets.

Baltimore—Paper-box Factory.—J. E. Smith Company, manufacturer of paper boxes, 6-12 North Central avenue, has increased its capital stock from \$5000 to \$10,000; J. E. Smith, president.

Baltimore—Factory Building.—Referring to factory building to be erected at St. Mary's Industrial School on Wilkens avenue, the following contractors are estimating on construction: C. C. Watts, 113 Hamilton street; Monmonier & Sorrell, 308 Laurens street; J. J. O'Connor, 5 Lloyd street; McIver & Piel,

Builders' Exchange Building, 2 East Lexington street; D. A. Leonard, Builders' Exchange Building; J. T. Buckley, 916 Bolton street; Edward Brady & Son, 1113 Cathedral street; Brady & Watters, 532 St. Paul street; J. J. Walsh & Son, 1325 Maryland avenue, and John Stack & Sons, 250 West Preston street; three stories, 50x100 feet; stone exterior; slate roof; Tormey & Leach, architects, 323 North Charles street.

Baltimore—Shipbuilding Plant.—The Soho Iron Works, 223 North Calvert street, recently reported incorporated, has elected Thomas C. Williams, president, and Samuel T. Williams, general manager. The company's plant is located at Allen, Clement and Stevenson streets, and its product will be steam and gasoline engines, boilers, motors and power plants.*

Baltimore—Jewelry Factory.—Frederick Bucher, manufacturing jeweler, 12 Clay street, has purchased building at 218 North Charles street and has awarded contract to Henry Smith & Sons Company, 116 South Regester street, to remodel the building for his purposes.

Baltimore—Real Estate.—Suburban Building Co. has been incorporated with capital stock of \$10,000 to conduct real estate business by S. 1024 North Calvert street; J. Dudley Mason, 808 Fidelity Building, Charles and Lexington streets; Garner W. Denmead, Albert A. Burke and Jesse N. Bowen.

Baltimore—Telephone Exchange.—The Chesapeake & Potomac Telephone Co., Light near Baltimore street, will erect an addition to its exchange on Madison avenue near Robert street. One story will be added to present building and three-story addition in rear. Building will be fireproof throughout. Morrow Bros., 212 Clay street; Edward Brady & Son, 1109 Cathedral street, both of Baltimore, Md.; Thompson-Starrett Company, Commercial National Bank Building, 14th and G streets N. W., and John McGregor, 729 12th street N. W., both of Washington, D. C., and D. C. Weeks & Son, New York, are estimating on the construction; Joseph Evans Sperry, architect, Calvert Building, Fayette and St. Paul streets.

Baltimore—Water-works.—The Park Heights Water Co. has applied to State legislature for incorporation with capital stock of \$35,000 to operate water-works at Park Heights, a suburb of Baltimore, by Clarence M. Griffin, Gaither Building, 111 North Charles street; E. C. Pritchett, 501 St. Paul street; John H. Foss, C. W. Miller, Elias A. Blackahere, 2542 Eutaw Place; John W. Breedlove, Gaither Building, 111 North Charles street, and A. L. Jackson.

Baltimore—Transportation Company.—The Merchants & Miners' Transportation Co., Michael Jenkins, president, Light and German streets, has applied to State legislature for power to increase its capital stock from \$2,000,000 to \$6,000,000.

Baltimore—Sash and Door Factory.—William C. Scherer & Co., manufacturers of sash, doors and blinds, 808-812 West Baltimore street, have awarded contract to John S. Moke, Hoffman Building, 11 East Lexington street, for the construction of an addition to their plant at 813 and 815 Raborg street; three stories, 28x70 feet; brick with stone trimmings; slag roof; cost about \$7000.

Baltimore—Bag Factory.—M. J. Swift & Co., bag manufacturers, 228 Light street, have awarded contract to Luke Swift, 1905 Cromwell street, for the construction of three-story concrete warehouse, 16.2x97 feet, at Young and Thompson streets to cost about \$5000.

Baltimore—Real Estate.—Edson M. Schryver Company has been incorporated with capital stock of \$10,000 to deal in real estate by Edson M. Schryver, 641 North Calhoun street; Charles J. Taylor, 201 West Camden street; Alexander D. McConachie, Charles H. Parrish and Charles T. Westcott.

Baltimore—Paper-box Factory.—J. M. Raffel & Co., paper-box manufacturers, 217 West Camden street, have purchased lot at southwest corner Greene and German streets and will erect four or five-story factory building on the site, which is 58x94 feet; Louis Levi, architect, American Building, Baltimore and South streets.

Baltimore—Machine Shop.—Referring to machine-shop addition to be erected on North street between Saratoga and Lexington streets by Friedenwald Bros., machinists, 214-216 North Holliday street, the following contractors are estimating on the construction: Charles L. Stockhausen, National Marine Bank Building, Gay and Water streets; Thomas P. Johns, 406 McCulloh street; Thomas L. Jones & Son, 410 West Saratoga street; John Hiltz & Son, 3 Clay street; Monmonier & Sorrell, 308 Laurens street, and Henry L. Maas, 906 Alsquith street; two stories, 57.6x109 feet; brick with stone trimmings; steel beams; cast-iron col-

umns; slag roof; bids to be in March 22; C. M. Anderson, architect, 324 North Charles street.

Baltimore—Paints.—The Parlett Paint Co., 126 Hanover street, has been incorporated with capital stock of \$20,000 to manufacture and deal in paints by Harry G. Skinner, foot Cross street; Ernest W. Parlett, 126 Hanover street; Joseph P. Tiralla, Joseph W. C. Melke and George W. Williams.

Baltimore—Real Estate.—The Park Front Building Co. has been incorporated with capital stock of \$25,000 to deal in real estate by J. W. C. Melke, 255 Robert street; C. F. Green, Daniel Cloud, Jr., American Building, Baltimore and South streets; C. E. Kunkel, J. W. Vallant, 338 North Charles street, and H. H. Hubner, Maryland Telephone Building, Courtland and Lexington streets.

Baltimore—Shipbuilding.—Wm. Skinner & Sons Shipbuilding & Dry-Dock Co., foot Cross street, has purchased the plant, equipment, machinery, tools and unfinished work of the Baltimore Shipbuilding & Dry-Dock Co. at Locust Point for \$287,500. The consolidation of these two companies was reported in issue of January 4.

Belair—Power and Light Plant.—Incorporated: Power & Light Co. of Harford County, with \$50,000 capital stock, by P. Leslie Hooper, Hollis Courtney, Jr., Michael H. Fahey, Millard F. Tydings and J. W. O'Neill.

Phoenix—Cereal-food Products.—Henry D. Perky, Oread Institute, Glencoe P. O., Md., has purchased old Phoenix Cotton Mills at Phoenix, Md., and will establish plant for the manufacture of cereal food products, recently referred to.

MISSISSIPPI.

Belzoni—Cotton Compress.—Chartered: Belzoni Compress Co., with \$50,000 capital stock, by J. T. Thomas, S. L. Hearn and others.

Biloxi—Fish-fertilizer Factory.—Gulf Coast Fisheries Co., reported incorporated last week, will establish plant for the manufacture of fish scrap and fish oils having a capacity of 50 tons every 10 hours. About \$20,000 will be invested. William Gorenflo is president; J. A. Broadus, secretary-treasurer; American Process Co., New York, N. Y., engineers in charge.

Carnegie—Cotton Gin.—T. R. Coleman, B. A. Nabors and others have incorporated the Carnegie Gin Co. with \$5000 capital stock.

Greenwood—Brick and Tile Works.—Success Brick & Tile Co. has been organized with \$30,000 capital stock by Roger Friermood, Glen O. Friermood, Frank H. Reed and W. M. Hammer.

Greenwood—Cottonseed-oil Mill.—Buckeye Cotton Oil Co. is reported as erect addition to plant increasing the capacity 50 per cent. John O'Brien is manager.

Hattiesburg—Manufacturing.—Gress Manufacturing Co. is the correct title of company reported last week as being incorporated with \$10,000 capital stock by M. V. Gress, E. J. Allen and associates.

Lexington—Electric-light Plant.—It is reported that the city will issue \$22,500 of bonds for constructing electric-light plant. Address The Mayor.

Newton—Brick Works.—R. W. Doolittle and R. L. Rube will establish brick plant with a daily capacity of 60,000 bricks. Site has been purchased and machinery ordered.

Pascagoula—Machine Shop and Foundry.—It is reported that the Pascagoula Street Railway & Power Co. will build a machine shop and foundry. S. S. Bush of Louisville, Ky., is general manager.

Pelahatchee—Hardware Company.—Pelahatchee Hardware Co. has been incorporated with \$10,000 capital stock by J. M. Stiglich and others.

Senatobia—Water-works Improvement.—Town is considering installing additional equipment at water-works, extending mains, etc.; F. G. Gregory, superintendent works.*

Wesson—Timber Development.—J. N. Cook and C. E. Grafton of Brookhaven, Miss., have purchased a tract of timber land near Wesson at \$20,000 for development. Arrangements will be made at once for the erection of saw-mill.

MISSOURI.

Carthage—Mining.—C. R. Higgins, Mark Hall, J. B. Chaffee and others have incorporated the Five-Acre Mining Co. with \$200 capital stock.

Kansas City—Coal Mines.—Chartered: Kansas City Coal & Development Co., with \$100,000 capital stock, by W. F. Nine, A. W. Burnett and D. P. Gray.

Kansas City—Store Fronts, etc.—Kawneer Manufacturing Co. has been incorporated with \$50,000 capital stock to engage in storefront construction, manufacture metal wall plugs. F. J. Plym is president; H. O. Bar-

ber, vice-president, and Charles E. Barber, treasurer and manager; office, 505 Kemper Building.

Maryville—Electric-light Plant.—City will vote in April on \$30,000 bond issue for constructing electric-light plant. Address The Mayor.

Point Pleasant—Cotton Gin.—Olive De Lisle will rebuild cotton gin reported burned last week. A building 26x60 feet will be erected. About \$1000 will be invested; daily capacity 30 bales of cotton.

Sedalia—Woolen Mill.—Sedalia Woolen Mills, referred to last week, is arranging for improvements to its plant. Betterments include new wet-finishing and drying machinery, new wet-finishing room, etc. Negotiations for the equipment are now being closed. Charles Prine is engineer in charge.

Springfield—Foundry and Machine Works.—Phoenix Foundry & Machine Co., it is reported, has begun the construction of plant to cost \$50,000. It is stated a machine shop 50x70 feet and three other buildings of the same size will be erected. George H. McCann is president.

St. Joseph—School Building.—City will vote April 3 on \$250,000 bond issue for school-building purposes. Address The Mayor.

St. Louis—Gas Machines.—Frederick Schmitt, Amelia Schmitt and Frank H. Braden have incorporated the Star Gas Machine Co. with \$50,000 capital stock to build gas machines, gas-light and heating plants.

St. Louis—Land and Lumber Company.—Boynton Land & Lumber Co. has been incorporated with \$300,000 capital stock by August J. Lang, J. George Ganahl of St. Louis, Charles D. Boynton of Cape Girardeau, Mo., and associates.

St. Louis—Drug Factory.—Chartered: Howard E. Nichols Walumita Co., with \$15,000 capital stock, by Howard E. Nichols, S. E. Wood and R. E. Tommerson.

St. Louis—Wire and Iron Works.—Fridolin Geiger, Henry P. Wehrenbrecht and Adolph Lachmann have incorporated the Ornamental Wire & Iron Co. with \$2500 capital stock.

St. Louis—Bakery.—Steber Bakery Co. has been incorporated with \$2000 capital stock by Henry J. Steber, Dominique Deschler and Theodore N. Steber.

St. Louis—Iron Works.—Incorporated: Anchor Iron Works Co., with \$10,000 capital stock, by Charles W. Shevlin, Winfred Bowman and Sylvanus Shevlin.

St. Louis—Lumber Company.—Columbia Lumber Co. has been incorporated with \$100,000 capital stock by Andrew J. Neimeyer, Wilson T. Cartwright, William N. Dunaway and others.

Webb City—Iron Mines.—Allen Hardy, Jr., George Hardy, Herman Jones, Ed Allen and others have organized a company for the development of 30 acres of land containing iron ore, recently leased.

NORTH CAROLINA.

Aurora—Saw-mill and Cotton Gin.—Stand and Lumber Co., reported incorporated last week with \$50,000 capital stock, will operate saw-mill with a daily capacity of 20,000 feet and 60-bale cotton gin. J. B. Whitehurst is president; R. L. M. Bonn, secretary-treasurer.*

Charlotte—Underwear Factory.—Charles C. Vaughan of Winston-Salem, N. C., is organizing company with \$25,000 capital stock for the establishment of plant to manufacture ladies' underwear.

Concord—Cotton Mill.—J. W. Cannon, mentioned last week as having purchased the old Coleman Mills, will equip the plant with 700 spindles and accompanying apparatus. Yarns will be manufactured. J. W. Cannon & Son is the title of operating firm.

Durham—Bottling Works.—Carolina Soda Water Co. has been incorporated with an authorized capital stock of \$6000 by R. B. Loyd, P. E. Upchurch and A. J. Chandler.

Goldensboro—Harness Factory.—Lamb-Stanton Company has been organized with \$15,000 capital stock by J. W. Lamb and T. H. Stanton to establish harness factory.

High Point—Chair Factory.—Best Chair Co. has been incorporated with \$10,300 capital stock by B. A. Best, J. T. Best and others. A two-story building, 50x150 feet, ironclad, with standard fireproof walls, will be erected.

Kingsdale—Turpentine Distillery.—Kingsdale Turpentine Manufacturing Co. has been incorporated with \$20,000 capital stock to manufacture oil and spirits of turpentine; daily capacity 100 to 150 gallons. Two frame buildings will be erected, one 12x40 feet, 32 feet high, and one 12x40 feet, 16 feet high. F. Sitterling is president.

Lakeview—Timber Development.—Lakeview Lumber Co. will probably develop under contract 2000 acres of long and short-leaf pine

timber land near Lakeview. The purchase of 1000 acres additional is also contemplated. A saw-mill with a daily capacity of 15,000 feet is being installed, and company will later probably build a second mill of like capacity. W. J. Tally of Sanford, N. C., and others are interested. J. R. McQueen will establish dry-kilns for handling or finishing a part of the output.

Lenoir—Ice Plant.—Citizens' Light & Power Co. contemplates erecting ice plant.*

Monroe—Railroad Repair Shop.—It is reported that the Seaboard Air Line Railway will build repair shops. Address Edmund Berkeley, third division superintendent, Atlanta, Ga.

Mt. Airy—Hardware.—F. L. Smith Hardware Co. has been incorporated with an authorized capital stock of \$25,000 by J. B. Sparger, F. L. Smith, R. N. Payne and associates.

Mt. Airy—Orchard Company.—Sparger Orchard Co. has been incorporated with \$30,000 authorized capital stock by J. B. Sparger, George W. Sparger and associates.

Oxford—Sewerage System.—Town is considering the construction of sewerage system, and wants estimates, specifications, etc., for complete system; J. P. Stedman, chairman committee.*

Oxford—Buggy Factory.—Oxford Buggy Co. has been incorporated with \$100,000 capital stock for the manufacture of high-grade buggies. A building will be erected. R. W. Lassiter of Oxford is president; B. F. Taylor of Chase City, Va., vice-president, and J. H. Lang of Oxford, secretary-treasurer.*

Palestine—Flour Mill.—Chartered: Palestine Roller Mill Co., with an authorized capital stock of \$25,000, by Henry Blalock, Wm. L. Harris, both of Palestine, and W. A. Marks of Albemarle, N. C.

Reidsville—Furniture Factory.—S. Ellington of Wentworth, N. C., and associates contemplate the establishment of furniture factory mentioned last week.*

Shelby—Telephone System.—Shelby Mutual Telephone Co. has been organized with \$10,000 capital stock. Charles L. Eskridge is manager and superintendent.

Swannanoa—Lumber Company.—John Morrow of Marshall, N. C.; George H. Mell and L. E. Reighard of Kane, Pa., have incorporated the Mt. Mitchell Lumber Co. with \$10,000 capital stock.

Wilmington—Brick Works.—Incorporated: Atkinson Brick Works, with \$35,000 capital stock, by E. R. Strunk and associates.

Winston—Plumbing and Mill Supplies.—R. R. Crawford, T. B. Crawford and associates have incorporated the Crawford Plumbing & Mill Supply Co. with an authorized capital stock of \$25,000.

Winston-Salem—Furniture Factory.—B. F. Huntley and associates have purchased at \$22,000 the plant of the Winston Furniture Co. It is proposed to improve the plant and operate as the B. F. Huntley Furniture Co. B. F. Huntley will be president, and M. D. Stockton, secretary-treasurer. The company will want a superintendent; also foreman for glue-room.*

SOUTH CAROLINA.

Chester—Electric-light Plant.—City is reported as to make improvements to electric-light plant, installing additional machinery and increasing capacity. Address The Mayor.

Columbia—Gas Plant.—Plintsch Compressing Gas Co. of New York, N. Y., has purchased site on which to erect proposed \$40,000 gas plant. J. A. Dixon is general manager.

Columbia—Stone and Metal Company.—Joe E. McDonnell and Martin McDonnell have incorporated the Capital Stone & Metal Co. with \$1000 capital stock.

Easley—Cottonseed-oil Mill, Cotton Gin and Phosphate Plant.—Easley Oil Mill Co. has been organized with Dr. R. F. Smith, president, and J. A. Robinson, secretary, to operate cottonseed-oil mill, cotton gin and phosphate plant. The company has purchased and will operate the plant of the Anderson Phosphate & Oil Co.; capital stock \$25,000. Mr. Smith and associates were recently mentioned in connection with this enterprise.

Kingstree—Electric-light Plant.—Town has voted affirmatively the \$15,000 bond issue mentioned last week for constructing electric-light plant; Dr. D. C. Scott, W. R. Fun and P. G. Gourdin, commissioners of public works.

Seneca—Cannery and Steam Laundry.—T. E. Stribling, P. O. Box 63, contemplates establishing cannery and steam laundry.*

Spartanburg—Foundry and Machine Shop.—W. H. Russel, mentioned last week as to establish foundry and machine shop, will erect foundry building, 100x40 feet, and machine shop, two stories, 100x40 feet. About \$25,000 will be invested. Electric drive will

be used on each machine. Contract for building has been let.*

St. George—Cottonseed-oil Mill and Cotton Gin.—St. George Cotton Oil Co. has been organized with \$25,000 capital stock by J. B. Johnston, J. H. Moore, W. B. Raysor, R. F. Collier and E. J. Dennis to erect a 20-ton cottonseed-oil mill and four 70-saw cotton gins. One double revolving steam packing press will be used. Mr. Johnston was previously mentioned in connection with this enterprise.*

TENNESSEE.

Athens—Road Improvements.—The \$300,000 bond issue reported last week to be voted by McMinn county for road improvements has been defeated; W. N. Knox, county clerk.

Bristol—Water-works.—It is stated that White Top, 29 miles distant, has been practically decided on as the source for securing water for the cities of Bristol, Tenn., and Bristol, Va., recently referred to. It is estimated that this source would necessitate an expenditure of \$500,000, and an 18-inch iron pipe conduit will be required. Dr. J. F. Hicks is chairman of water committee.

Chattanooga—Candy Factory.—Deitzen Bros. have secured permit for the erection of proposed candy factory; two stories, of brick, and cost \$15,820.

Clinton—Knitting Mill.—Magnet Knitting Mills, previously incorporated with \$30,000 capital stock, has contracted for erection of mill building two stories high, 45x140 feet, with finishing-room, dyehouse, boiler and engine room, 45x138 feet, and 60 knitting machines, dyeing apparatus, finishing equipment, etc. S. M. Leath is president, and Paul F. Vogel, manager.

Harriman—Broom Factory.—C. N. Martin, 618 Clinton street, will establish broom factory. A concrete building 100x60 feet will be erected; F. J. Manly, architect and engineer in charge. This enterprise was referred to last week.*

Knoxville—Railroad Repair Shops.—Southern Railway Co. contemplates enlarging shops at Lonsdale. The work will comprise a new machine shop 150x750 feet of brick with steel frame, and some additions to paint shop and woodworking shop. R. A. Dugan, assistant general manager, Washington, D. C., it is understood, has received bids for the erection of machine shop. This item referred to last week.

Knoxville—Stove Foundry.—John T. Ammons, Millard A. Ammons and others have organized as Ammons & Goins for the establishment of \$10,000 stove foundry.

Lenoir City—Foundry.—Bass Foundry & Machine Co. is reported as to erect addition to plant increasing the capacity. It is also stated that electricity will be installed to operate the machinery; C. H. Watson, manager.

Memphis—Stone-block Factory.—Wm. B. Hoffman, T. C. Ashcroft, George M. McCormick, Henry Caro and T. Guy Moyston have incorporated the Southern Artificial Stone Co. with \$2500 capital stock to manufacture stone building blocks, etc.

Memphis—Bakery and Candy Factory.—R. B. Snowden has contract to erect three-story brick addition, 15x50 feet (previously reported), to factory building of the Hoadley Ice Cream Co. for doubling the capacity of bakery and candy factory; cost \$10,000.

Memphis—Sash, Door and Blind Factory.—Annedale Lumber Co., recently incorporated with \$50,000 capital stock to establish sash, door and blind factory, has completed organization with E. M. Richardson, president; E. J. Boyle, vice-president, and George B. Martin, secretary-treasurer.

Nashville—Machine Shop.—John Bouchard & Sons Company is erecting machine shop 42x100 feet. Company was recently mentioned as erecting addition for increasing the capacity.

Okey City (P. O. Cliff Springs)—Coal Mines. Okey River Coal Co., reported last week as having absorbed the Meads Gap Coal Co. of Waldensia, Tenn., which would be developed in connection with a coal tract owned near Okey City, will have a capacity at the start of from 150 to 250 tons daily, which will be increased in six months to 400 tons. It is also proposed to develop two other coal mines, one near Okey City and the other near Waldensia, Tenn., on the property of the Meads Gap Coal Co. Thomas H. Love, Cliff Springs, Tenn., will be in charge of these two developments. The capital stock of the company has been increased from \$100,000 to \$300,000, as recently mentioned.

Roan Mountain—Water Flume.—Columbian Paper Co. of Bristol, Tenn., it is reported, has begun the construction of a water flume six miles long through its pulp-wood holdings near Roan Mountain; to be constructed of wood and be used for the transportation of pulp wood.

Sparta—Road Improvements.—White county has voted the proposed \$60,000 bond issue for road improvements. Address County Clerk.

Trenton—Cotton Mill.—Trenton Cotton Mills contemplates installing new carding and picking machinery and boilers, expending probably \$20,000; present equipment 6000 spindles and 160 looms.

Tullahoma—Wood-extract Plant.—Doak Aydelott and associates propose forming company to establish plant for manufacturing wood extracts from chestnut wood for the use of tanneries. They want to engage manager to install and operate the plant.*

TEXAS.

Austin—Lock and Dam Construction.—Bastrop and Austin Rice Growers' Association has been organized with W. B. Stockton, E. E. White and associates for the construction of lock and dam at Demijohn Bend on Bastrop bayou in Brazoria county, for which plans and specifications have been prepared; entire length of dam 174 feet, including lock which will be built at one end; lock to be 40 feet wide and 150 feet long. Bids for the work are now being received.

Avinger—Lumber Company.—Incorporated: Avinger Lumber Co., with \$10,000 capital stock, by W. B. Duncan, L. K. Avinger, A. M. Hedick and L. H. Avinger.

Brenham—Cotton Compress.—Brenham Compress Co. has been organized with D. C. Giddings of Brenham, president, and W. J. Neale of Waco, Texas, secretary, to take over and operate the plants of the National Compress Co. and the Brenham Compress, Oil & Manufacturing Co.

Cleburne—Hardware.—C. L. Fannin, W. T. Fannin and E. E. Fannin have incorporated the Fannin Hardware Co. with \$10,000 capital stock.

Corsicana—Oil Wells.—Eleven Oil Co. has been incorporated with \$25,000 capital stock by J. L. Halbert, William Tatum, Rufus Hardy, W. J. McKie and John M. David.

Corsicana—Oil and Pipe Line.—W. G. Baker, R. E. Prince and others have incorporated the Junior Oil & Pipe Line Co. with \$50,000 capital stock.

Dallas—River Improvements.—D. C. McCord, Jr., has contract at \$119,779.68 for constructing lock and dam No. 1, and at \$23,159.45 for constructing Parson's slough dam of the Trinity navigation work.

Denison—Street-paving.—Arrangements have been completed for constructing sidewalks on Gandy street, and bids for same will be received until April 5. Address The Mayor.*

El Campo—Water-works, Electric-light and Ice Plants.—El Campo Light, Ice & Water Co. is the title of company previously reported as being organized with E. L. Correll, president; Frank Koelg, vice-president and general manager, and J. W. Leach, secretary-treasurer, to operate water-works, electric-light and ice plants.

El Paso—Saw and Planing Mill, etc.—El Paso Flume & Lumber Co., recently reported incorporated with \$250,000 capital stock to develop timber land, will erect saw and planing mill for a daily capacity of 150,000 feet of yellow pine, and build 60 miles of flume; office, 815 Kansas street.*

Ganado—Irrigation Canal.—Jackson County Canal Co. has been incorporated with \$15,000 capital stock by Wm. F. Prince, A. Mike and Charles W. Silliman.

Grand Saline—Lignite Mines.—It is reported that the Texas Cannel Coal Co. of Alba, Texas, has leased several hundred acres of lignite coal lands and will arrange at once for its development.

Hearne—Publishing.—Hearne Publishing Co. has been incorporated with \$2500 capital stock by J. J. Hall of Hearne, G. H. Albers and W. T. Bartholomew of Franklin, Texas.

Houston—Ice and Fuel Company.—Harvey A. Williams, J. F. Leverkuhn, George W. Turck and W. T. Butler have incorporated the Co-operative Ice & Fuel Co. with \$5000 capital stock.

Houston—Water Company.—A company has been organized by Dr. James Bute and others with \$20,000 capital stock to drill artesian well and establish plant for distilling water.

Llano—Water-works.—A. J. Silker, George Shelley and E. P. Byrne of Austin, Texas, who recently purchased the local water, light and ice plants, will install system of water-works and build standpipe 150 feet high. About \$20,000 will be expended.

Lufkin—Lumber Plant.—Carter-Kelly Lumber Co. has been incorporated with \$200,000 capital stock for the manufacture of lumber, having a daily capacity of 100,000 feet. A complete single-band-saw mill with planing mill, dry-kilns, etc., will be erected. About \$150,000 will be invested; G. A. Kelley, president.*

Nacogdoches—Ice and Cold-storage Plant.—Nacogdoches Ice & Cold Storage Co., reported incorporated last week with \$50,000 capital stock, will establish ice plant with 25 tons daily capacity and cold-storage plant with 30,000 cubic feet for cold-storage space. Two buildings, one 125x50 feet and one 25x75 feet, will be erected. Arthur Marshall is superintendent.

Nacogdoches—Saw-mill.—J. F. Summers has let contract to Frank Taylor for erection of saw-mill, replacing plant recently burned.

Paris—Street-paving.—Arrangements have been completed for paving several streets, and bids for same will be received until April 2; T. C. Bishop, mayor.*

San Antonio—Lumber Company.—Chartered: Bex Lumber Co., with \$20,000 capital stock, by R. M. Middlebrook, S. V. Houston and A. J. Durham.

San Antonio—Lumber Company.—Incorporated: New South Lumber Co., with \$50,000 capital stock, by F. L. Hillyer, A. Deutsch and J. E. Jarrett.

Terrell—Pickle Factory.—Oklahoma Vinegar Co. of Fort Smith, Ark., is reported as completing arrangements for the establishment of proposed pickle factory.

Victoria—Electric-light Plant.—City will vote April 3 on the issuance of \$12,000 of bonds for constructing electric-light plant. Address The Mayor.

Waco—Cotton Compress.—National Compress Co. has been incorporated with \$400,000 capital stock by W. J. Neale, J. G. Timmins of Waco and George McFadden of Philadelphia, Pa.

Wichita Falls—Ice Plant.—Wichita Ice Co. has been incorporated with \$25,000 capital stock by Frank Kell, P. P. Langford and P. C. Maricle.

VIRGINIA.

Abingdon—Lumber Mill.—Bruno Lumber Co. has been incorporated with \$25,000 capital stock to manufacture lumber.

Alexandria—Coal Mines.—Chartered: Joshua Creek Mining Corporation, with E. E. Crook of Cleveland, Ohio, president, and W. C. Doak of Terre Haute, Ind., secretary-treasurer; authorized capital stock \$100,000.

Berkeley—Lath Mill.—Fosburgh Lumber Co. has begun the erection of lath mill. Two boilers, each having a capacity of 465 horse-power, are also being installed at lumber plant.

Bristol—Retaining Wall.—An appropriation of \$6000 has been made for building a retaining wall on both sides of Beaver creek. Address The Mayor.

Bristol (P. O. Bristol, Tenn.)—Drug Factory.—Owl Drug Co. has been incorporated with \$10,000 capital stock. L. Bunting is president, and B. S. Cochran, secretary-treasurer.

Chilhowie—Electric-light Plant.—F. P. McCready will establish electric-light plant and water-works. A two-story brick building, 30x60 feet, will be erected. About \$4000 will be invested.

Christiansburg—Brick Works.—Montgomery Brick Co. has been incorporated with an authorized capital stock of \$20,000. L. S. Randolph of Blacksburg, Va., is president; J. W. Pepper, secretary, and E. S. Hagan, treasurer, both of Christiansburg.

Emporia—Woodworking, Excelsior and Tannic-acid Plants.—Hanna Milling Co., Washington, D. C., mentioned last week as to establish woodworking plant, has secured five acres of ground on which to locate the following: Saw-mill with a daily capacity of 120,000 feet, hardwood and hard-turnings factory, excelsior and tannic-acid plant; Robert H. Partridge, 66 Metzert Building, Washington, D. C., engineer in charge. Thomas S. Hopkins is president of the company; Robert H. Partridge, vice-president; Eugene A. Hannan, secretary, and William S. Hodges, treasurer.*

Emporia—Water-power-Electrical Plant.—It is reported that the Greensville Water Power Co. will develop the water-power of the Meherrin river at Emporia, building a 36-foot stone dam and installing machinery that will develop about 4000 horse-power. It is stated that bids for the work will shortly be asked.

Holladay—Flour Mill.—Reports state that a 50-barrel flour mill will be built and equipment installed for meal and feed mills. It is stated that Brian Holladay will be manager.

Jonesville—Timber Land.—H. O. Spangler of Bluefield, W. Va., has purchased 1500 acres of timber land at \$9000, estimated to cut 8,000,000 to 10,000,000 feet, principally white oak. Two portable mills with a daily capacity each of 10,000 feet will be installed at once. Enterprise recently referred to.

Keysville—Flour Mill.—Incorporated: Keysville Mill, with George E. Passmore, president, and Charles Osborne, secretary. Ar-

rangements will be made at once for the erection of building.

Lee County—Coal Mines.—Dominion Coal Co., recently organized with \$50,000 capital stock, has completed organization with H. Lee Early, president; R. P. Gilliam, vice-president; Burke H. Keeney, secretary and general manager, and August Ferger, treasurer. It will develop about 700 acres of coal land in Lee county; main office, Cincinnati, Ohio.

Lewiston—Flour Mill.—It is reported that Harris & Duerson of Harris, Va., will erect 25-barrel flour mill, together with stone outfit for meal and chop.

Lexington—Mineral Lands.—S. H. Letcher, G. D. Letcher, J. Houston Leech, Frank Moore and J. Preston Moore have purchased 770 acres of mineral lands for development purposes.

Luray—Flour Mill.—Willow Grove Milling Co. is reported to install additional machinery for increasing the capacity to 40 barrels daily.

Lynchburg—Shoe Factory.—Jones & Adams, 212 10th street, Lynchburg, Va., and not Adams & Jacobs, as mentioned last week, have contract to erect factory building for the Smith-Briscoe Shoe Co.

Lynchburg—Lumber Company.—Morrison Lumber Co. has been incorporated with an authorized capital stock of \$25,000. R. E. Adams of Brookneal, Va., is president; Withers Bagwell, vice-president, and J. A. Morrison, secretary-treasurer, both of Lynchburg.

Lynchburg—Shoe Factories.—Craddock-Terry Company has let contract to C. W. Womack & Co. for the erection of four-story addition 250x50 feet to factory in West Lynchburg and for addition, 50x130 feet, to Southland factory, recently referred to. A reservoir with a capacity of 100,000 gallons will be constructed and tanks with a capacity of 25,000 gallons built on top of buildings. E. G. Frye prepared the plans.

Lynchburg—Printing Plant.—Chartered: Commercial Printing Co., with an authorized capital stock of \$25,000. O. B. Barker is president; C. B. Fuqua, vice-president and treasurer, and E. L. Jones, secretary.

Manchester—Stove Foundry and Warehouse.—Cameron & Anderson Stove Co., it is reported, has let contract to W. A. Chesterman of Richmond, Va., for the erection of building to be used as foundry and warehouse.

Milford—Cement-block Factory.—W. W. Gresham is organizing company for the establishment of plant to manufacture cement building blocks, cement bricks, fence posts, etc.*

Mineral—Ice Plant.—Dr. H. J. Van Deursen and associates contemplate establishing ice plant.*

Norfolk—Peanut-cleaning Plant, etc.—American Peanut Corporation has been incorporated with \$100,000 capital stock to establish plant for cleaning peanuts, manufacturing peanut butter and other by-products of peanuts, such as candy, confectionery, etc., from same. A five-story building 105x145 feet has been secured, and machinery and equipment installed at a cost of \$25,000 to \$30,000. P. D. Gwaltney of Smithfield, Va., is president; P. D. Bain of Wakefield, Va., vice-president; F. R. Berryman of Smithfield, Va., secretary-treasurer, and M. J. R. Wright of Norfolk, manager.*

Norfolk—Ship-cleaning Machines.—Martin Ship-Cleaner Co., it is reported, has purchased site near Norfolk on which to locate plant for the manufacture of ship-cleaning machines.

Norfolk—Land Improvement.—Southern Suburban Development Co. has been incorporated with an authorized capital stock of \$50,000. W. D. Elliott is president; Thomas W. Shelton, secretary, and H. M. Kerr, treasurer.

Richmond—Heating and Plumbing Apparatus.—Coppidge Heater Corporation has been chartered with an authorized capital stock of \$25,000 to manufacture all kinds of heating and plumbing apparatus. E. N. Newman is president, and S. E. Walters, secretary-treasurer.

Roanoke—Drain.—C. Markley will probably be awarded contract at \$26,500 for re-covering the Campbell-avenue drain with concrete.

Richmond—Dryhouse.—Richmond Cedar Works, T. K. Parrish, general manager, will rebuild dryhouse recently burned.

Roanoke—Lumber Company.—Chartered: Litz Lumber Co., with A. Z. Litz of Welch, W. Va., president, and W. A. Perdigon of Roanoke, secretary-treasurer; authorized capital stock \$20,000.

Whehle—Timber Development.—Fairfax Lumber Co. has been incorporated with \$30,000 capital stock. John R. Wheeler is president, and Wilson H. Cralle, secretary-treasurer, both of Pittsburg, Pa. Messrs. Wheeler, Cralle and associates are reported as having purchased 3200 acres of timber land near Whehle for development purposes.

Wyeheville—Iron Furnace.—R. A. Carter, president Monongahela Iron & Steel Co., Pittsburg, Pa., previously reported as having purchased the Ivanhoe furnace property, has begun rebuilding the furnace and improving the machinery for same. No other improvements will be made for the present. The plant will be operated as the Ivanhoe Furnace Co.

WEST VIRGINIA.

Benwood—Brewery.—Benwood Brewing Co., previously reported incorporated with \$200,000 capital stock to operate brewery, has purchased site in North Benwood on which to locate plant; annual capacity 25,000 barrels.

Charleston—Electrical Machinery.—Agnew Electric Co., manufacturers of electrical machinery, mentioned last week as having purchased site on which to erect building, equipping for increasing capacity, will build a two-story brick structure 150x55 feet. David Dick is architect and engineer in charge.*

Charleston—Sheet-metal Works, etc.—Charleston Sheet Metal Works, reported incorporated last week with \$30,000 capital stock, will manufacture sheet-iron and copper cornice, slate and tin roofing, hot-air furnaces and special sheet-metal work. J. R. Shanklin is president; W. G. Barrar, treasurer, and Chas. Skiba, general manager.*

Charleston—Coal and Iron Mines.—Olcott Coal & Iron Co., recently reported incorporated with \$500,000 capital stock, will take over a 6000-acre tract of Black Band coal lands in Kanawha county which will be developed. It is also proposed to open up other properties on the tract and develop iron ore. R. Morgan Olcott is president; Duncan B. Cannon, vice-president; A. de Costa Gomez, secretary-treasurer, all of New York.

Fairmont—Coke Ovens.—Federal Coal & Coke Co., operating near Fairmont, is reported as to build 250 coke ovens.

Grafton—Incorporated.—Butt-Kunst Company, with \$5000 capital stock, by A. W. Butt, G. Butt, A. J. Kunst and others.

Huntington—Coal Mines.—It is reported that A. E. Cox of Huntington and W. H. Taylor of Wellsville, W. Va., representing a syndicate of West Virginia and Pittsburg (Pa.) parties, have purchased 100,000 acres of coal land in Cabell and Mason counties, West Virginia, and Lawrence and Gallie counties, Ohio, at \$3,500,000. It is stated that the oil and gas rights have also been purchased.

Macdonald—Coal Mines.—James W. Smiley, Samuel Dixon, William K. Smiley, Robert H. Martin, John T. Serey and associates have incorporated the Great Kanawha Colliery Co. with \$100,000 capital stock.

Morgantown—Saw-mill.—Graham-Yeager Lumber Co., reported incorporated last week with \$25,000 capital stock, will erect saw-mill and equip for a monthly capacity of 150,000 feet. About \$3500 will be invested. W. T. S. Graham, Marlinton, W. Va., is superintendent.

New Cumberland—Mercantile.—Chartered: Porter-Evans Supply Co., with \$10,000 capital stock, by James Porter, L. G. Evans, E. A. Hart and others.

Newells (P. O. Congo)—Enameled Tiling.—Kenilworth Tile Co. has been organized by R. L. Cawood, Harry T. Hall, A. J. May and S. C. Williams, all of East Liverpool, Ohio, for the establishment of plant to manufacture enameled tiling. Three kilns will be built.

Odell—Saw-mill and Stave Factory.—Kanawha Stave & Lumber Co., reported incorporated last week with \$25,000 capital stock, will operate saw-mill with about 120,000 feet daily capacity and stave factory having a daily output of 1000 split staves and 7000 sawed staves. Sheds covering mill and loading sheds will be built. A. M. D. Herschberger is president and general manager; S. J. Smith, vice-president, and I. E. Hodge, secretary-treasurer. W. L. Herschberger is engineer in charge; main office, Charleston, W. Va.

Preston—Coal Mines.—Leroy Coal Mining Co., reported incorporated last week, will mine coal on 960 acres of land and install machinery and equipment for a daily capacity of 500 tons. About \$30,000 will be invested. Equipment has been purchased; Henry Mace Payne, Williamson, W. Va., engineer in charge.

Princeton—Furniture and Hardware.—Incorporated: Mercer Hardware & Furniture Co., with \$25,000 capital stock, by E. W. Hale, W. S. Reid and others.

Rowlesburg—Publishing.—Chartered: Rowlesburg Publishing Co., with \$1000 capital stock, by George E. Rogers, George Hayes and others.

Triadelphia—Glass Factory.—It is reported

that the Manufacturers' Glass Co. of Cleveland, Ohio, is investigating with a view to locating glass plant.

Wheeling—Cigar Factory.—James B. McKee Cigar Co. has been incorporated with \$30,000 capital stock by Charles O. Ephlin, L. D. Rowlin, D. J. McKee, W. J. Shaffer and others.

Williamson—Coal-mining.—Goff Coal Co., previously reported as to enlarge plant, will erect tipples, incline and headhouse. About \$10,000 will be invested. All grades of split coal are mined; daily capacity 200 tons.*

Williamson—Coal Mines.—Horsepen Coal Co. has been incorporated with \$50,000 capital stock by R. R. Blas, Claude I. Gaujot of Williamson, H. C. Duncan, Jr., W. K. Cowden and George S. Wallace of Huntington, W. Va.

INDIAN TERRITORY.

Tablequah—Water-power-Electrical Plant.—Illinois River Light & Power Co., reported incorporated recently to develop the water-power of the Illinois river near Tablequah, will begin at once the making of preliminary surveys, and later will engage an expert to report on the feasibility of the project. It is proposed to construct a tunnel about 6000 feet long and 10 feet in diameter, turning the present Illinois river through a hill, thereby obtaining a fall of 55 feet with a minimum flow of water of 12,000 cubic feet per minute and a maximum flow of the full capacity of tunnel under a head of six feet. A small diversion dam will probably be erected at mouth of tunnel to divert the river. The rock work will require the removal of about 18,000 cubic yards of loose and solid rock. It is estimated that between 1000 and 1500 horsepower will be generated and transmitted by electricity to adjoining towns for light and power purposes. About \$100,000 will be expended. Frank R. Lewis has the preliminary work in charge.

Tulsa—Oil Refinery.—Pure Oil Co., 61 Manhattan Building, Philadelphia, Pa., states there is no truth in the report recently mentioned that negotiations were being conducted for the establishment of a 15,000-barrel oil refinery in the mid-continent field.

Wynnewood—Electric-light Plant and Water-works.—City has let contract to N. S. Sherman of Oklahoma City, O. T., at \$26,046 for constructing electric-light plant and water-works, previously mentioned; W. P. Bullock, Davis, I. T., engineer in charge.

OKLAHOMA TERRITORY.

Alme—Telephone System.—Alme Farmers' Mutual Telephone Co. has been incorporated with \$2000 capital stock by H. C. Geist, B. A. Field, G. A. Reiner and others.

Enid—Flour Mill.—J. Y. Callahan has organized company to erect 100-barrel flour mill at a cost of \$20,000.

Enid—Ice and Cold-storage Plant.—People's Ice & Cold Storage Co. has been incorporated with \$25,000 capital stock by W. E. Thompson, J. H. Taylor and J. E. Davies.

Grimes—Cotton Gin.—E. W. Franklin, J. H. Turbyfill and associates have incorporated the Major Union Gin Co. with \$10,000 capital stock.

Foss—Telephone System.—Chartered: Foss Telephone Co., with \$10,000 capital stock, by S. H. Bowman, W. M. Larnell and S. M. Larnell.

Hobart—Incorporated.—J. M. Case Mill Manufacturing Co., Southwest, with \$100,000 capital stock, by T. R. Anderson, A. F. Dechman of Oklahoma City and J. M. Case of Louisville, Ky.

Hobart—Development Company.—H. L. Standeven, C. S. Gillette, George M. Medley, H. C. Lloyd, O. K. Benedict and associates have incorporated the Southwestern Development & Colonization Co. with \$100,000 capital stock.

Jet—Coal and Lumber Company.—Chartered: Farmers' Coal & Lumber Co., with \$25,000 capital stock, by L. J. Lewis, W. R. Campbell, G. P. Rodgers, J. P. Miller and W. M. Jett.

Lawton—Cannery.—Rush Springs Canning Co. has been organized with Avery H. Dickinson, president; W. T. Hooper, vice-president, and Stephen Brown, secretary-treasurer.

Lawton—Mining.—New Mexico & Wichita Mountain Developing Co. has been incorporated with \$1,000,000 capital stock by J. J. Burns of St. Louis, Mo.; E. W. McCormick of Washington, D. C., and others.

Oklahoma City—Development Company.—Incorporated: Indian Development Co., with \$250,000 capital stock, by C. R. Wilson and associates.

Oklahoma City—Construction Company.—Missouri Construction Co. of Oklahoma City and Davis, I. T., has been incorporated with

\$100,000 capital stock by John Maney, R. E. Brown and Guy V. McClure.

Pawnee—Zinc and Lead Mines and Mill.—McKinley Mining Co., reported incorporated last week with \$100,000 capital stock to mine zinc and lead, is considering the erection of a 200-ton mill. C. M. Hoss of Ralston, O. T., is president; A. McKinley, Baxter Springs, Kan., vice-president and general manager; H. E. Thompson of Ralston, O. T., treasurer, and W. L. Engleton of Pawnee, secretary.*

Shawnee—Gas and Electric-light Plant.—Chartered: Shawnee Gas & Electric Co., with \$750,000 capital stock, by F. P. Stearns of Shawnee, T. W. Odell of Oshkosh, Wis., and Sinclair Mainland of Green Bay, Wis.

Tecumseh—Water-works and Electric-light Plant.—City will vote May 8 on the issuance of \$60,000 of bonds for water-works and electric-light plant. O'Neil Engineering Co., Dallas, Texas, will prepare plans and specifications for the water-works.

BURNED.

Austin, Texas.—Building owned by Joe Nalle; loss \$15,000.

Birmingham, Ala.—Louisville & Nashville Railway Co.'s blacksmith shop; loss \$18,000; W. H. Courtenay, chief engineer, Louisville, Ky.

Bristol, Va.—J. Wilkinson Lumber Co.'s plant, loss \$95,000; Adams Bros. & Co.'s plant, damaged \$12,000.

Brunswick, Ga.—Brunswick Sash, Door & Blind Co.'s dry-kilns.

Bryson City, N. C.—W. J. Oliver's warehouse and commissary; loss \$10,000.

Concord, Tenn.—Farragut High School; loss \$9000.

Franklin, Va.—Mrs. J. C. Council's hotel; two warehouses owned by W. T. Pace.

Kinderhook, Ga.—McLee Bros.' crate and basket factory; loss \$50,000.

Lone Grove, I. T.—Dr. C. F. Sullivan's cotton gin.

Macon, Ga.—Macon Central High School; loss \$40,000.

Milton, N. C.—Milton Roller Mills, owned by W. B. Lewis of Danville, Va.; loss \$25,000.

Shreveport, La.—St. Vincent's Academy; loss \$60,000.

Spencer, Tenn.—Burrett College; loss \$15,000.

Springfield, La.—Springfield Lumber Co.'s mill; loss \$10,000.

Toccoa, Ga.—Inman, Aker & Inman's warehouse; Atlanta Compress Co.'s plant.

BUILDING NOTES.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Abbeville, La.—Building.—Dr. F. F. Young will receive bids until March 29 for the erection and completion of a two-story and attic frame building with dependencies according to plans and specifications on file at office of Honold & Gautier, Abbeville; also at the rooms of M. D. and L. Exchange, New Orleans, La.; proposals to be filled out on forms furnished by architects and be accompanied by certified check for \$1000.

Abingdon, Va.—Hospital.—H. F. Ramsay has contract to erect hospital recently reported for the Abingdon Hospital after plans by H. Doriot, Bristol, Tenn.; building to be 1½ stories, 50x60 feet, of concrete blocks; frame partition; low-pressure steam heat; acetylene lights; cost \$4500.

Apex, N. C.—Warehouse.—Chartered: Planters' Warehouse Co., with an authorized capital stock of \$30,000, by A. B. Hunter, L. S. Olive, W. B. Johnson and associates.

Ashland, Ky.—Association Building.—V. P. Collins, Courier-Journal Building, Louisville, Ky., has completed plans for proposed two-story brick addition, 40x55 feet, to Y. M. C. A. Building; cost \$3000.

Atlanta, Ga.—Hotel.—W. A. Wimblish, 523 Prudential Building, Atlanta, Ga., is having plans and specifications prepared for the erection of hotel mentioned last week.

Atlanta, Ga.—Building.—Atlanta Federation of Trades contemplates erecting a \$10,000 building. H. F. Garrett is chairman of building committee.

Atlanta, Ga.—College Building.—George B. Hinnman has contract to erect five-story building of granite and light press brick for Atlanta School of Medicine after plans by C. Walter Smith; main building, 69x86 feet; amphitheater, 37x52 feet; cost \$45,000.

Augusta, Ga.—Office Building.—Leonard Philinz is having plans prepared by Charles E. Choate for rebuilding the Leonard Building, recently reported burned. Two elevators will be installed.

Baltimore, Md.—Bank Building.—The Colonial Trust Co., J. Henry Ferguson, president, 13 West Saratoga street, has commissioned Elliott & Emmart, architects, Union Trust Building, Charles and Fayette streets, to prepare plans and specifications for bank building to be erected on Saratoga street near Charles street; one story, 66.6x15 feet; Indiana limestone exterior with granite base; reinforced-concrete construction.

Baltimore, Md.—Dwelling.—Referring to dwelling to be erected at Roland Park by Stanley Zell of Motor Car Co., Mt. Royal avenue, the following contractors are estimating on construction: Gladfelter & Chambers, 2072 Woodberry avenue; Wm. T. Murphy, 908 North Howard street, Baltimore, Md.; C. E. Thomas, Daniel Harding, both of Towson, Md.; J. H. Fowle, Sykesville, Md., and Israel Owings, Mt. Washington, Md.; 2½ stories; frame and stucco exterior; electric wiring and fixtures; sanitary plumbing; heating system. Bids to be in March 23; Owens & Sisco, architects, Continental Building, Baltimore and Calvert streets.

Baltimore, Md.—Apartment-house.—Morris & Clifford, architects, Equitable Building, Calvert and Fayette streets, are preparing plans and specifications for apartment-house to be erected at northeast corner McMechen and McCulloh streets; four stories; concrete-block exterior.

Baltimore, Md.—Store Building.—Samuel E. D. Stuart, 516 North Broadway, has purchased lot at 306 East Baltimore street and will erect store building on the site, which is 19x142 feet.

Baltimore, Md.—Church.—Emmanuel Methodist Episcopal Church, South, C. D. Harris, pastor, Madison avenue and Laurens street, has decided to erect church building to cost about \$30,000.

Baltimore, Md.—Dwellings.—Bernard Thillman, 1905 East Madison street, will erect 12 two-story brick dwellings on Port street near Lafayette avenue to cost about \$9000.

Baltimore, Md.—Warehouse.—Lawrence Turnbull, 12 East Lexington street, has awarded contract to Hopkins-Barnett Company, Calvert Building, Fayette and St. Paul streets, for the construction of warehouse at 311 and 313 West Baltimore street and extending through to 308 and 310 West German street; five stories on Baltimore street and six stories on German street, 33x171 feet; brick with terra-cotta trimmings; reinforced-concrete construction for all floors, columns, roof, stairways and elevator shafts; slag roof; vault lights; galvanized-iron skylights; electric wiring and fixtures; sanitary plumbing; steam-heating system; two electric elevators; Bayard Turnbull, architect, 12 East Lexington street.

Baltimore, Md.—Dwellings.—Edward J. Storck, Winston avenue near York road, will erect 10 two-story brick dwellings on Patuxent near Palmyra street to cost about \$15,000.

Baltimore, Md.—Dwellings.—Augustus Hampson, 207 St. Paul street, has purchased lot on Cumberland street between Pennsylvania avenue and Carey street and will erect a number of dwellings on the site, which has a frontage of 120 feet.

Baltimore, Md.—Greenhouse and Car Barn. Referring to greenhouse and car barn to be erected at its cemetery on Frederick road by the Loudon Park Cemetery Co., 21 West Saratoga street, the following contractors are estimating on construction: Milton C. Davis, Merchants and Manufacturers' Association Building, Baltimore street and Hopkins Place, and M. L. Wright, Eutaw and McCulloh streets; greenhouse, one story, 20x45 feet; car barn, one story, 20x50 feet.

Baltimore, Md.—Dwelling.—Mrs. John W. Frick, 101 Roland avenue, Roland Park, has purchased lot on Ridgewood road, Roland Park, and will erect dwelling on the site.

Baltimore, Md.—Dwellings.—Oliver P. Roberts and Wm. H. Roberts, 2232 Boston street, have purchased lot at Hudson, 1st and 2d streets, and will erect 26 two-story brick dwellings on the site.

Baltimore, Md.—Dwellings.—Edward J. Gallagher, builder, 2638 East Baltimore street, will erect 10 two-story brick dwellings on Port near Jefferson street to cost about \$8000.

Baltimore, Md.—Warehouse.—Moses Rothschild, 900 North Eutaw street, has purchased lot at 6 Center Market Space and will erect warehouse on the site, which is 25x65 feet.

Baltimore, Md.—Office Building.—Maury & Donnelly, Knickerbocker Building, Lexington and North streets, have awarded contract to C. C. Watts, 113 Hamilton street, for the construction of office building at northwest corner Water and Commerce streets; two stories and basement, 52x70.10 feet; brick with granite base and Indiana limestone trimmings; first floor reinforced concrete; steel beams; iron columns; slag roof; metal frames and sashes; electric wiring and fixtures; sanitary plumbing; steam-heating system; Tor-

mey & Leach, architects, 323 North Charles street.

Baltimore, Md.—Warehouse.—Revised bids are being taken from Henry S. Rippel, 7 Clay street, and J. H. Miller, 110 Dover street, for four-story brick and stone fireproof warehouse to be erected at southwest corner Light and Balderston streets for the Gottschalk Company, wholesale liquor dealers, 1766 North Gay street. Bids to be in March 26; C. M. Anderson, architect, 324 North Charles street. Full details recently mentioned.

Baltimore, Md.—Dwellings.—George A. Cook, 435 East 25th street, has awarded contract to Wm. A. Weidner, 1737 North Castle street, for the construction of 20 two-story brick and marble dwellings to be erected on Castle street near North avenue to cost about \$20,000. Hot-air-heating systems will be installed.

Baltimore, Md.—Warehouse.—A. W. Nolen and A. Rosello of the Baltimore Steam Carpet Cleaning & Storage Co., 121 North Greene street, have awarded contract to Wm. Ferguson & Bro., 214 Clay street, for the construction of two-story brick warehouse at 111 North Greene street to cost about \$9000.

Baltimore, Md.—School Building.—Sealed proposals, addressed to the Board of Awards, will be received until April 4 at the office of Harry F. Hooper, city register, City Hall, for erecting school building at Garrison, Main and Orem avenues, Forrest Park; two stories and basement, 72x150 feet; brick with stone base and trimmings; steel beams and girders; cast-iron columns; fireproof floor over boiler-room; tin roof; plumbing; steam-heating system. Plans and specifications may be obtained from office of inspector of buildings, Edward D. Preston, City Hall.

Baltimore, Md.—Office Building.—The Kosciusko Permanent Loan and Building Association, 1631 Eastern avenue, will erect marble-front office building, 18x55 feet, on Eastern avenue near Broadway to cost about \$10,000.

Baltimore, Md.—Church.—Referring to church building to be erected at Highland avenue and Pratt street by the Highland Avenue Methodist Episcopal Church, John H. Jeffries, pastor, the following contractors are estimating on the construction: Felix McGinnity, 827 East Chase street; McIver & Piel, Builders' Exchange Building, 2 East Lexington street; John Stack & Sons, 250 West Preston street. John W. Cleaver is chairman building committee, 216 Gough street extended. Bids to be in March 23; Torney & Leach, architects, 323 North Charles street.

Baltimore, Md.—Warehouse.—Wm. A. Foreman, 2206 York road, is preparing plans and specifications for four-story brick warehouse, 35x63 feet, to be erected at 204 South Central avenue.

Baltimore, Md.—Dwellings.—James F. Morgan, builder, 1300 South Charles street, has commissioned Jacob F. Gerwig, architect, Hoffman Building, 11 East Lexington street, for eight three-story brick and stone dwellings to be erected at southwest corner Warren avenue and Henry street to cost about \$30,000.

Beaumont, Texas.—Warehouse.—Gulf Refining Co. has let contract for the erection of proposed warehouse.

Blackstone, Va.—School Building.—Plans have been adopted for proposed \$10,000 brick school building; George P. Adams, mayor.

Bluefield, W. Va.—Building.—T. T. Carter has completed plans for three-story building, 50x100 feet, of fireproof construction, to be erected by Nathan Sohn at a cost of \$22,000. Steam heat and electric lights will be installed.

Bluefield, W. Va.—Store and Office Building.—Saul Greenspon will erect a three-story store and office building of brick, stone trimmings, mosaic tiling, hard plaster, gas and electric fixtures; cost \$9000.

Bluefield, W. Va.—Store and Office Building.—Samuel Turk is having plans prepared by Holmboe & Lafferty for a three-story brick office and store building; concrete flooring, composition roof, mosaic tiling, gas and electric fixtures, modern plumbing; cost \$7000.

Bristol, Tenn.—Business Block.—Henri Doriot is preparing plans for a three-story business block, 90x60 feet, to be erected by the First National Bank at a cost of \$10,000.

Bristol, Tenn.—Hotel.—Drs. George W. Wiley, H. B. Edmondson and associates will erect a brick and stone fireproof hotel.

Brooksville, Fla.—Building.—W. B. Camp, Jacksonville, Fla., is preparing plans for building to be erected by ex-Governor Jennings, Jacksonville, Fla.; structure to be two stories, 69x70 feet, of brick with artificial-stone front, asphalt and gravel roof, electric fixtures, modern plumbing, and cost \$7000. Bids will be opened May 1.

Bryan, Texas.—College Building.—Plans by Steele & Fountain, Houston, Texas, have been adopted for proposed building for the Texas Woman's College.

Cape Henry, Va.—Hotel.—Cape Henry Beach Corporation, reported incorporated recently to erect hotel, is having plans prepared by John Keenan Peebles, Norfolk, Va., for \$30,000 structure. It is also proposed to build two rows of apartment-cottages.

Cedartown, Ga.—School Building.—T. J. Griffin has contract at \$5735 for the erection of addition to school building; A. C. Bruce, Atlanta, Ga., architect. Contracts for heating, plumbing and seating have not been awarded.

Center, Texas.—Warehouse.—Center Grocery Co., recently organized by Dr. P. G. Swearingen and associates, will erect warehouse.

Central City, W. Va.—Hotel.—Charles Schneider will erect a four-story hotel, 60x100 feet, brick, composition roof, hard plaster, gas and electric fixtures, plate glass, modern plumbing, etc.; J. B. Stewart, Huntington, W. Va., architect.

Chelsea, I. T.—Building.—Chelsea Improvement Co. has had plans prepared by A. O. Clark, Rogers, Ark., for a three-story building 84x90 feet, to cost \$20,000. Gas and electric fixtures will be installed.

Cleburne, Texas.—Skating Rink.—Chartered: Cleburne Amusement Co., with \$7000 capital stock, by Fred W. Hudziatz, S. P. Ramsey and others, to operate skating rink.

Chattanooga, Tenn.—Apartment-house.—Janeway & Hooper have contract to erect two-story apartment-house previously reported for A. A. Drago, 301 West 6th street; cost \$6000. Bearden & Foreman, Chamberlain Building, prepared the plans.*

Clifton Forge, Va.—Church.—Bids will be opened April 1 for the erection of edifice for the Christian Church, Gerald Culbertson, pastor, after plans by George Kramer, New York, N. Y.; main auditorium 50x100 feet, with pastor's study and library annex; electric lights; cost \$10,000.

Colorado, Texas.—School Building.—Bids were opened March 20 for the erection of two-story school building, 114x60 feet; T. J. Galbraith, Parr Building, Hillsboro, Texas, architect; Robert M. Webb, chairman building committee.

Columbia, S. C.—Building.—Bids will be opened March 31 for building reported last week to be erected by L. B. Dozier & Co. after plans by J. H. Sams; brick and stone; fireproof construction; 200x50 feet; hot-air-heating plant; electric lights; electric and hand-power elevators; cost \$30,000.

Columbia, S. C.—Courthouse and Jail.—Richland county is considering the erection of courthouse and jail to cost \$75,000. Address County Supervisor Starling.

Columbus, Ga.—School Building.—Carleton B. Gibson, secretary school trustees, will receive bids until April 10 for the erection and completion of a brick and stone three-story and basement building, 74x124 feet, for the Secondary Industrial School according to plans and specifications on file at office of J. W. Golucke & Co., architects, Atlanta, Ga., and which may be had on deposit of \$10 from the architect or secretary. Certified check or guaranteed bidder's bond for \$1000 must accompany each bid. Usual rights reserved.

Columbus, Miss.—Lodge Building.—Bids will be received until April 2 for remodeling lodge building for the local lodge of Odd Fellows. It is proposed to make the entire building three stories, put in a new front of stone, brick and iron, new plumbing and lighting system. About \$15,000 will be expended. R. H. Hunt, Chattanooga, Tenn., prepared the plans. Joe Cook is chairman building committee.

Cumberland, Md.—Depot.—J. W. George & Co. have contract to erect passenger and freight depot for the Westernport Electric Railway Co.

Donaldsonville, La.—Opera-house.—Donaldsonville Realty Co. has let contract to M. W. Katteringham of Thibodaux, La., for the erection of opera-house; to be two stories of brick and cost \$30,000.

Durham, N. C.—Church.—Second Baptist Church has adopted plans for the erection of proposed addition to edifice to cost \$18,000. Address The Pastor.

Durham, N. C.—Church.—Central Carolina Construction Co., Greensboro, N. C., has contract to erect \$20,000 edifice for St. Philip's Church.

Elkins, W. Va.—Business Building.—Daniel Moyle will erect a three-story pressed-brick building 54x100 feet. Gas and electric lights will be installed; cost \$13,000.

Elkridge, Md.—Hotel.—John H. Schaab will erect hotel after plans and specifications by Jacob F. Gerwig, architect, Hoffman Build-

ing, 11 East Lexington street, Baltimore, Md.; three stories, 32x90 feet; frame construction on brick foundation; shingle roof; electric wiring and fixtures; sanitary plumbing; steam-heating system. Henry S. Rippel, 7 Clay street; John S. Moke, Hoffman Building, 11 East Lexington street; C. S. M. Williamson, 18 East Lexington street, and Willis & Mason, Calvert Building, Fayette and St. Paul streets, all of Baltimore, Md., are estimating on the construction. Bids to be in March 28.

El Reno, O. T.—Opera-house.—E. W. Riley, Henry Lassen, R. S. Trulock, W. I. Goff and associates have incorporated the El Reno Opera-House Co. with \$35,000 capital stock.

Ensley, Ala.—Store Building.—Charles Rous has let contract to F. M. Slye for the erection of a two-story brick building to cost \$5000.

Farmington, Mo.—Buildings.—Board of Managers State Hospital No. 4, M. P. Cayce, president, will receive bids until April 9 for the erection of a two-story brick cottage, auditorium hall and employees' home. Plans and specifications on file at office of W. W. Waters, secretary, at the institution, and also at office of H. H. Honerschild, architect, Rolla, Mo.

Fernandina, Fla.—Casino.—N. E. Lasserre has contract to erect casino at Amelia Beach for the Amelia Beach Co., mentioned last week; ordinary construction; 60x100 feet; electric lights; cost \$7000.*

Fort Worth, Texas.—Church.—Plans by Smith & Schenck have been adopted for proposed \$100,000 edifice for the First M. E. Church, South.

Gadsden, Ala.—Hospital.—Dr. A. W. Ralls has purchased site, 100x150 feet, on which to erect a two-story brick and stone hospital at cost of \$15,000. Steam heat and electric lights will be installed. An electrical and operating room will be a special feature.

Greensboro, Md.—Bank Building.—Contract will be let March 24 for the erection of brick building, 28x54 feet, by the Caroline County Bank after plans by Paul Emmart, 210 West Fayette street, Baltimore, Md. Hot-air-heating plant and gas fixtures will be installed; cost \$5000.

Greensboro, N. C.—Church.—First Baptist Church has secured site on which to erect proposed \$35,000 edifice. Foulk & Son prepared the plans.

High Point, N. C.—Store and Office Building.—J. W. Harris will erect a store and office building.

Houston, Texas.—Building.—James Shapley has contract to erect building for F. H. Stewart after plans by O. H. P. Rudisill & Son; four stories, 53x150 feet; brick, cement and concrete blocks; composition roof; electric fixtures and electric elevators; cost \$15,000.

Jacksonville, Fla.—Building.—W. B. Camp is preparing plans for three-story building 42x80 feet to be erected by C. Brinkley; to be of brick with asphalt and gravel roof; electric fixtures; cost \$10,000. Bids for construction will be opened May 1.

Johnston, S. C.—Dwelling.—The residence reported last week to be erected by S. J. Watson after plans by A. W. Hamby, 412 Skyscraper, Columbia, S. C., will be of brick, 50x50 feet; kitchen and pantry 12x25 feet, and cost \$6000. Acetylene-gas plant will be installed.*

Kansas City, Mo.—Lodge Building.—James T. Patterson has contract to erect auditorium for Elks' Charter Trust Association (previously mentioned) after plans by Wm. H. Saylor; of ordinary construction, 70x70 feet; steam heat; gas and electric lights; cost \$30,000.

Kansas City, Mo.—Buildings.—J. H. Stone has contract at \$35,000 for the erection of two stone storage buildings for the street and water departments recently referred to.

Kansas City, Mo.—School Buildings.—The following contracts have been awarded for the construction of school buildings: To Santa Fe Construction Co., the building of Norman school at \$51,883; J. B. Nevill & Son, the Lykins school building at \$37,351; contract for heating plant in Scarritt school building to Lewis & Kitchen at \$9000; contract for plumbing to A. A. Nicol Heating & Plumbing Co. at \$2087. Bids are also being asked by Charles A. Smith, architect, for the erection of an eight-room school building.

Knoxville, Tenn.—Building.—Southern Express Co. is having plans and specifications prepared for the erection of building 40x85 feet; to be an annex to the Southern Railway Co.'s station.

Lexington, Ky.—Store Building.—Hendricks Bros. & Co. have contract for the erection of a three-story pressed-brick building with stone trimmings for Mrs. Patrick Farrell; cost \$12,000.

Lexington, Ky.—Hotel.—Phoenix Hotel Co.

has authorized Richards, McCarty & Bulford, Lexington; Frank M. Andrews of Cincinnati, Ohio; Charles I. Williams of Dayton, Ohio, and Anderson & Faig to submit plans for hotel previously reported to be erected.

Little Rock, Ark.—Office Building.—Mann & Downey are preparing plans for a three-story building, 70 feet square, to be erected by the Reigler estate at a cost of \$35,000.

Little Rock, Ark.—Amusement Park.—It is reported that Glass & Hill of Memphis, Tenn., and New Orleans, La., have purchased Braddock Park, which will be improved as amusement park. About \$50,000 will be expended.

Little Rock, Ark.—Office Building.—J. S. Braddock is having plans prepared by Chas. L. Thompson for a three-story office building 50x140 feet of granite; marble wainscoting; tiled floors; cost \$50,000.

Louisville, Ky.—Courthouse Improvements. Bids will be opened April 3 for reconstructing Jefferson county courthouse, making it absolutely fireproof, after plans by Brinton B. Davis; cost \$115,000. Metal sash, doors and frames, steel trim and casings, tile and composition floors, ornamental plastering, structural steel work, frescoing, fireproofing will be required.

Louisville, Ky.—Depot.—Louisville & Southern Indiana Traction Co., New Albany, Ind., states there is no truth in the report recently mentioned that it would erect depot and make other terminal improvements.

Luray, Va.—Depot.—Norfolk & Western Railway is arranging for the erection of a \$20,000 depot; C. S. Churchill, chief engineer, Norfolk, Va.

Marlinton, W. Va.—Store Building.—Greenbrier Jewelry Co. has purchased site on which to erect a two-story brick store building 45x90 feet.

Melville, La.—School Building.—Building Committee will receive bids until March 31 for the erection of school building. Certified check for \$250 must accompany each bid. Plans and specifications on file at office of Melville Brick Co., Melville, La. Usual rights reserved; R. H. Jones, mayor and chairman of building committee.

Memphis, Tenn.—Office Building.—J. N. Falls is reported as to erect an eight-story pressed-brick steel-frame office building, 50x148½ feet, to cost \$100,000.

Memphis, Tenn.—Flat Building.—L. M. Weathers has completed plans for J. N. Falls' proposed three-story flat building.

Memphis, Tenn.—Dwelling.—H. B. Hull has secured permit for the erection of a two-story frame residence with slate roof to cost \$9,000.

Memphis, Tenn.—Flats Building.—Bob Church is completing arrangements for the erection of proposed four-story pressed-brick flats building, 60x50 feet.

Memphis, Tenn.—Church.—R. A. Curtis is preparing plans for \$8,000 edifice to be erected by St. Stephen's Baptist Church.

Memphis, Tenn.—Flats Building.—Mrs. F. W. Taylor has had plans prepared by R. A. Curtis for remodeling dwelling at 739 Jefferson street as flats building. About \$40,000 will be expended.

Memphis, Tenn.—Dwellings.—Robert Gallo-way will erect two residences at a cost of \$10,000.

Memphis, Tenn.—Church.—Lockeland Baptist Church, W. H. Horner, pastor, is considering the erection of edifice, and a committee, composed of A. M. Mullins, Lewis M. Hitt, C. P. Sheffield and Fred Gray, has been appointed to investigate site and consider plans.

Memphis, Tenn.—Dwelling.—Thomas S. Marr has prepared plans for a two-story brick residence to be erected by Alexander Porter at a cost of \$7,000.

Milledgeville, Ga.—Building.—Julius A. Horne has purchased site, 20x150 feet, on which to erect building.

Montgomery, W. Va.—Opera-house.—M. J. Simms has let contract for the erection of a \$15,000 opera-house.

Montgomery, Ala.—Apartment-house.—M. W. Stuart, representing himself and Northern capitalists, has purchased site on which to erect apartment-house. Plans have been prepared for a six-story steel and brick building with marble finish to cost \$150,000. A double system of elevators will be installed.

Montgomery, Ala.—Dwelling.—Bids will be received until March 27 at the office of Frederick Ausfeld, architect, Moses Building, for the erection of a two-story brick-veneered residence according to plans and specifications on file in architect's office. Usual rights reserved.

Mooresville, N. C.—School Building.—Town will erect \$10,000 school building. Architect has not been selected; A. L. Starr, mayor.

Morristown, Tenn.—Building.—John Loop is erecting three-story building, 24x115 feet, equipped with electric fixtures, and costing \$5,000; R. E. Smith, architect.*

Nashville, Tenn.—Flats Buildings.—East Side Improvement Co., referred to last week, will erect 100-room flats buildings; fireproof construction, steam heat, electric and gas fixtures; cost \$50,000; A. J. Dyer, architect and engineer in charge.*

Nashville, Tenn.—Building.—T. S. Marr has completed plans for four-story building to be erected by B. F. Wilson at a cost of \$20,000. Bids for the construction will be asked at once.

Nashville, Tenn.—Fire Hall.—Board of Public Works, Geo. T. Stainback, chairman, will open bids April 12 for constructing a two-story brick fire hall complete; cost not to exceed \$7,000. Floor plans can be seen at the office of A. A. Rozetta, fire chief. Usual rights reserved.

Nevada, Mo.—School Building.—Garstang & Rea, Joplin, Mo., are preparing plans for \$50,000 school building previously reported to be erected.

New Martinsville, W. Va.—Church.—J. C. Fulton, Uniontown, Pa., is preparing plans for stone edifice to be erected by the Methodist congregation at a cost of \$20,000 (recently mentioned).

New Orleans, La.—Building.—Bids will be opened March 25 for the erection of the Kaufman Building after plans by Stone Bros.; to be three stories, 115x127 feet, with a cream-enamel terra-cotta front.

Newton, Ga.—Courthouse.—Atlanta Fireproofing Co., Atlanta, Ga., has contract to erect courthouse previously reported for Newton county after plans by J. W. Golucke & Co., Atlanta, Ga.

Norfolk, Va.—Apartment-house.—East & Hobbs, Haddington Building, are preparing plans for a four-story brick apartment-house to cost \$75,000. Passenger and freight elevators will be installed.

Ocala, Fla.—Courthouse.—Bids addressed to H. W. Long, chairman Marion County Commissioners, will be received until April 6 at the office of S. T. Sistrunk, clerk Circuit Court, for the erection of a two-story courthouse according to plans and specifications on file at office of clerk; also at office of W. Chamberlain & Co., Birmingham, Ala. Certified check or draft for 8 per cent. of bid must accompany each proposal. Usual rights reserved.

Oklahoma City, O. T.—Building.—John Deere Implement Co. is reported to erect a \$60,000 building.

Oklahoma City, O. T.—Building.—Frederickson & Kroh Music Co. is having plans prepared by J. W. Hawk for a building, 25x140 feet, to cost \$15,000.

Oklahoma City, O. T.—Building.—Cross Construction Co. has let contract to erect a three-story fireproof brick and steel building, 175x140 feet, for George Hales after plans by A. J. Hawk; cost \$150,000.

Oklahoma City, O. T.—Dwelling.—J. W. Hawk is preparing plans for a \$500 residence to be erected by C. M. Clayton. Same architect has completed plans for a \$6,000 residence to be erected by Fred S. Guin.

Oklahoma City, O. T.—Dwelling.—Guy Blackwelder has had plans prepared by A. J. Williams for a \$7500 residence.

Oklahoma City, O. T.—Telephone Building.—A. J. Williams has completed plans for proposed \$125,000 building for the Pioneer Telephone Co.

Opelousas, La.—Bank Building.—E. B. Dubulsson, president Opelousas National Bank, will receive bids until April 2 for the erection of a brick and terra-cotta bank building. Certified check for \$250 must accompany each bid. Plans on file at office of Favrot & Livaudais, architects, 839 Gravier street, New Orleans, La. Usual rights reserved.

Opelousas, La.—Hotel.—Opelousas Improvement & Development Co. will erect three-story brick and stone hotel to cost \$50,000.

Orangeburg, S. C.—Hotel.—Wolfe & Berry have had plans prepared for a five-story brick and stone hotel 60x151 feet to cost between \$30,000 and \$40,000. Steam heat, electric lights and passenger elevator will be installed.

Palatka, Fla.—Courthouse.—The courthouse reported last week to be erected by Putnam county will be of fireproof construction, 62x95 feet, equipped with steam heat, electric lights, and cost \$60,000; W. Chamberlin & Co., P. O. Box 295, Birmingham, Ala., architects.

Pass Christian, Miss.—School Building.—Town Council, Pass Christian, Miss., will receive plans and specifications until April 4 for the erection of a two-story brick or cement-block school building with basement to contain six schoolrooms and auditorium and cost \$15,000; George P. Brandt, town clerk.

Pauls Valley, I. T.—School Buildings.—S. B. Renter, Norman, O. T., has contract to erect two school buildings after plans by D. P. Kaufman, Sulphur, I. T.; to be two stories, of brick construction, and cost \$25,000. Steam-heating plant will be installed; J. A. Rody, president school board.*

Pine Bluff, Ark.—School Building.—H. Manf, secretary board of directors of public-school district of Pine Bluff, will receive plans and specifications until April 9 for the erection of a modern high-school building; cost not to exceed \$50,000.

Pine Bluff, Ark.—Hotel.—J. W. Dutton has contract for remodeling hotel for N. B. and J. B. Trulock, previously reported. About \$50,000 will be expended; Charles L. Thompson, 111 Arkansas Building, Little Rock, Ark., architect.

Plaquemine, La.—School Building.—City is considering the erection of \$40,000 school building. Address Professor Brown, superintendent of education.

Port Arthur, Texas.—Office Building.—The Texas Company of Beaumont, Texas, is having plans and specifications prepared for a two-story brick office building.

Portsmouth, Va.—Office Building.—Seaboard Air Line Railway has begun rebuilding that portion of building recently damaged by fire; W. L. Seddon, chief engineer.

Ravina, I. T.—School Building.—City will issue \$5,000 of bonds for the erection of school building. Address The Mayor.

Rayne, La.—Building.—Delotte & LaGrange, Lake Charles, La., have contract to erect two-story brick building for Mayor Broussard; cost \$12,000.

Richmond, Va.—Amusement Park.—Richmond Amusement Corporation, Jake Wells, manager, has begun the development of 20-acre site as amusement park. A pavilion with a floor space of 15,000 square feet, having five towers and domes, will be built, together with toboggan, carrousel, bathing pool, bandstand, illuminated circle swing, etc. About \$100,000 will be expended.

Richmond, Va.—Store Buildings.—Ragland & Slaughter have contract to erect two two-story store buildings for John F. Ragland.

Richmond, Va.—Depot, etc.—Richmond & Chesapeake Bay Railway Co. has completed arrangements for the erection of proposed two-story depot. Electric passenger elevators will be installed. Work on terminal sheds and viaduct will also begin shortly. Address Chief Engineer Burgwyn.

Roanoke, Va.—Fire Station.—J. F. Barbour & Co. have contract to erect fire station to cost \$25,000.*

Savannah, Ga.—Store Building.—Bids will be opened in about three weeks for the erection of four-story building 60x90 feet, reported last week to be built by David J. Morrison after plans by Henry Urban. Steam heat, electric and gas lights and electric freight elevator will be installed; cost \$40,000.

Savannah, Ga.—Drill Hall and Auditorium. Contract will be let about April 1 for the erection of drill hall and auditorium for the First Georgia Regiment, for which Charles S. O'Connell was mentioned last week as preparing plans; mill construction, frame with gravel roof, 80x120 feet, steam heat, electric lights; cost \$15,000.

Spartanburg, S. C.—Church.—Central Methodist Church has purchased site on which to erect \$35,000 edifice. J. W. Nash is chairman building committee.

Somerset, Ky.—Church.—Somerset Baptist Church is arranging for the erection of brick and stone edifice, 60x108 feet, to cost from \$15,000 to \$20,000. Warm-air furnace and electric lights will be installed. Architect has not been selected. Bids for the construction will be asked in about 60 days. George L. Elliott is chairman of building committee.

St. Louis, Mo.—Store Building.—Syndicate Trust Co., recently organized with \$1,000,000 capital stock by David R. Francis, W. J. Holbrook and associates, have had plans prepared by H. F. Roach, Chemical Building, for the erection of a 16-story fireproof store building.

St. Louis, Mo.—School Building.—Barnett, Haynes & Barnett are preparing plans for proposed building for St. Philomena Industrial School; to be four stories, entirely fireproof, of pressed brick with stone and terra-cotta trimmings.

St. Louis, Mo.—Warehouse.—Sligo Iron Store Co. has purchased site on which to erect warehouse.

St. Louis, Mo.—Flat Building.—Harry Cassidy has had plans prepared by Geo. H. Kennerly, 607 Benoist Building, for proposed flat building; to be two stories, of brick and stone, tar and gravel roof, hard plaster, gas and electric fixtures, modern plumbing, etc.; cost \$10,000.

St. Louis, Mo.—Hotel.—Barnett, Haynes &

Barnett, Frisco Building, are preparing plans for hotel to be erected by Thomas Connor of Joplin, Mo.

Sutton, W. Va.—School Building.—Bids will be opened March 31 for the erection of school building, for which an \$18,000 bond issue was previously reported voted; stone and brick, indirect-steam-heating plant, gas fixtures; Will F. Davis, architect.

Tallahassee, Fla.—Governor's Mansion.—Hon. N. B. Broward, chairman governor's mansion committee, will receive bids until April 17 for the construction of the governor's mansion in accordance with plans on file at governor's office, Tallahassee, and at office of H. J. Klutho, architect, Jacksonville, Fla. Certified check, made payable to the chairman, must accompany each bid.

Tallahassee, Fla.—Building.—Geo. W. Shepard, mayor, will receive bids until March 26 for furnishing all labor and material in the construction and execution of a building for an electric-light plant. Plans and specifications on file in office of city clerk.

Temple, Texas.—School Building.—City will vote April 3 on \$20,000 bond issue for the erection of school building. Address The Mayor.

Toccoa, Ga.—Warehouse.—Inman, Akers & Inman will rebuild warehouse reported burned; structure to be 160x400 feet, constructed of concrete blocks.

Troy, Ala.—Church.—O. C. Wiley, Charles Henderson, W. C. Black and A. B. Foster, committee, will receive bids until April 1 for the erection of addition to the First Baptist Church. Plans and specifications on file at office of Frank Lockwood, architect, Montgomery, Ala.; also can be had from the committee.

Tulsa, I. T.—School Building.—City has voted affirmatively the \$25,000 bond issue, previously mentioned, for the erection of school building; C. L. Reeder, mayor.

Valdosta, Ga.—Freight Depot.—Flitts & Co., Atlanta, Ga., has contract to erect brick freight depot, 45x296 feet, previously reported, for the Georgia Southern & Florida Railway Co. Curran R. Ellis, Macon, Ga., prepared the plans.

Waycross, Ga.—Hotel.—George R. Youmans and others will erect a \$70,000 hotel; three or four stories; equipped with steam heat and electric lights. Architect has not been selected.

Wilmington, N. C.—Store Building.—Peterson & Rulfs have had plans prepared by Leitner & Wilkins for a three-story brick building 30x100 feet.

Washington, D. C.—Bank and Office Building.—The Union Trust Co., 1414 F street N. W., has purchased lot at southwest corner 15th and H streets and will erect bank and office building to cost about \$300,000 on the site, which is 53.8x161 feet.

Washington, D. C.—Bank and Office Building.—The Washington Savings Bank, northwest corner 12th and G streets N. W., has commissioned B. Frank Meyers, Bond Building, 14th street and New York avenue N. W., to prepare plans and specifications for an addition to its bank and office building. Building will be 25x70 feet, and an additional story will be put on present building; cost about \$35,000.

Washington, D. C.—Apartment-house.—Wm. Pitt Kellogg, Shoreham Hotel, has awarded contract to Louis H. Emmert, 1419 G street N. W., for the construction of apartment-house on 19th street between Florida avenue and U street N. W.; three stories, 63.8x120 feet; brick with granite base and limestone trimmings; reinforced concrete work; steel columns and beams; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; Appleton P. Clark, Jr., architect, 605 F street N. W.

Washington, D. C.—Church.—The Lutheran Church of Atonement, I. O. Baker, pastor, 10 R street N. E., has purchased lot at northeast corner of North Capitol street and Rhode Island avenue, and will erect church on the site, which contains 9155 square feet.

Washington, D. C.—Dwelling.—K. Gwynn Gardner, Fendall Building, 344 D street N. W., has commissioned Appleton P. Clark, Jr., architect, 605 F street N. W., to prepare plans and specifications for brick and pebble-dash dwelling to be erected on Newark street, Cleveland Park.

Washington, D. C.—Carriage Repository.—John W. Brawner, 1321 F street N. W., will erect carriage repository at Le Droit Park; four stories, 40x60 feet; brick with stone trimmings; steel beams; cast-iron columns; slag roof; galvanized-iron cornice; electric wiring and fixtures; elevator; Sherman & Sonneman, architects, 1302 F street N. W.

Washington, D. C.—Stable and Carriage Repository.—Ernest Burgdorf, 416 8th street N. W., will erect stable and carriage repository at 416 8th street N. W.; five stories, 26x

90 feet; brick with stone trimmings; steel beams; cast-iron columns; slag roof; electric wiring and fixtures; sanitary plumbing; elevator; alternate estimate on reinforced concrete construction. Among those estimating are Piper & Kenyon, 729 15th street N. W.; Richardson & Burgess, Colorado Building, 14th and G streets N. W., and S. J. Prescott, 700 13th street N. W.

Washington, D. C.—Store Building.—W. B. Moses & Sons, 11th and F streets N. W., have awarded contract to George A. Fuller Company, Home Life Building, 15th and G streets N. W., for the construction of apartment-house at 1647 Lamont street; three stories, 48.9x59 feet; brick with limestone trimmings; slag roof; electric wiring and fixtures; sanitary plumbing; steam-heating system; T. F. Schneider, architect, Bond Building, 14th street and New York avenue N. W.

Washington, D. C.—Apartment-house.—Wm. C. Wallis, 1200 G street N. W., has awarded contract to W. W. Souder, builder, 1635 Irving street N. W., for the construction of apartment-house at 1647 Lamont street; three stories, 48.9x59 feet; brick with limestone trimmings; slag roof; electric wiring and fixtures; sanitary plumbing; steam-heating system; cost about \$25,000.

Washington, D. C.—Apartment-house.—L. E. Breuninger, builder, 1122 Dartmouth street N. W., will erect three two-story brick and stone dwellings and two two-story brick and stone apartment-houses on Holmead avenue. Electric wiring and fixtures, sanitary plumbing and hot-water-heating systems will be installed; N. R. Grimm, architect, 627 F street N. W.

Washington, D. C.—Dwellings.—Osterman & Butler, builders, 325 Colorado Building, 14th and G streets N. W., will erect 12 three-story semidetached dwellings on Park street near 16th street; Appleton P. Clark, Jr., architect, 605 F street N. W.

Washington, D. C.—Dwelling.—Dr. Charles H. Waters, 5708 Brightwood avenue N. W., will erect 2½-story frame and stone dwelling on Brightwood avenue near Madison street. Gas fixtures, sanitary plumbing and hot-water-heating system will be installed; Spelden & Spelden, architects, 705 G street N. W.

Washington, D. C.—Store Buildings.—Chas. D. Fowler, 437 7th street N. W., as trustee for the Fowler estate, has commissioned Appleton P. Clark, Jr., architect, 605 F street N. W., to prepare plans and specifications for three store buildings, two stories high, on 7th street near P street.

Washington, D. C.—Dwellings.—Wilhelm Schmidt, 1761 8 street N. W., and Fritz Brandt will erect 13 two-story brick and stone dwellings at northeast corner 15th and E streets S. E.; B. Frank Meyers, architect, Bond Building, 14th street and New York avenue.

Washington, D. C.—Bank Building.—Referring to branch bank building to be erected in Anacostia, D. C., by the Union Savings Bank, 14th street and New York avenue N. W., the following contractors are estimating on construction: McKay & Morris, Congress Heights; Wm. Yost & Bro., 1002 Pennsylvania avenue S. E.; W. L. Turner, 41 Q street N. W.; W. E. Mooney, Lenman Building, 1425 New York avenue; Messrs. Fuss and Parker & Bowersox, both of Anacostia, D. C.; two stories, 40x53 feet; brick with stone trimmings; gas fixtures; steam-heating system; bids to be in March 24; B. Frank Meyers, Bond Building, 14th street and New York avenue.

Washington, D. C.—Apartment-houses.—John A. Wynkoop, 413 New Jersey avenue S. E., will erect two three-story apartment-houses 22x77 feet and one three-story dwelling 23x95 feet on F street between 6th and 7th streets N. E.; brick with stone trimmings; tin and slate roofs; hardwood finish; sanitary plumbing; hot-water-heating systems; N. T. Haller Company, architects, Corcoran Building, 15th and F streets N. W.

Washington, D. C.—Dwelling.—Benjamin White has awarded contract to George C. Hough, 619 14th street N. W., for the construction of 2½-story brick and stone dwelling at New Hampshire avenue and Randolph street to cost about \$5000. Hardwood finish, electric wiring and fixtures, hot-water-heating system will be installed; N. T. Haller Company, Corcoran Building, 15th and F streets N. W., architects.

Washington, D. C.—Dwelling.—Joseph Sanders, 772 Princeton street N. W., has commissioned Wood, Donn & Deming, architects, 808 17th street N. W., to prepare plans and specifications for dwelling to be erected on Columbia road near 15th street; 2½ stories, 35x43 feet; brick with limestone trimmings; slate roof; electric wiring and fixtures; sanitary plumbing; heating system.

Waycross, Ga.—Lodge Building.—The Elks Company has been organized with \$10,000 capital stock for the erection of three-story

brick lodge building on site recently purchased.

Waycross, Ga.—Office Building.—Dr. F. C. Folks will erect a four-story office building. Passenger and freight elevators will be installed.

Waynesboro, Ga.—Opera-house.—L. F. Goodrich, Augusta, Ga., is preparing plans for opera-house to be erected by Frank B. Hall at a cost of \$15,000.

Wheeling, W. Va.—Apartment-house.—Jos. Leiner & Son, architects, are taking bids for a three-story apartment-house to be erected by Barlin Montelgel at a cost of \$10,000.

Wheeling, W. Va.—Apartment-house.—C. D. McCarty has completed plans and is receiving bids for a two-story frame apartment-house to be erected at a cost of \$8000.

Wheeling, W. Va.—Dwelling.—Bids are being received for a two-story pressed-brick dwelling to be erected by Frank R. Scrogins at a cost of \$15,000; George S. Mooney previously mentioned as preparing plans.

Wheeling, W. Va.—Dwelling.—C. D. McCarty, architect, is receiving bids for a two-story frame residence to be erected by William Hornish at a cost of \$5000.

Wheeling, W. Va.—Store and Apartment-house.—Bids are being received for a store and apartment-house to be erected by Chas. A. Aul after plans by John Vester & Son; three stories; brick and terra-cotta; cost \$25,000.

Wheeling, W. Va.—Building.—Thos. Shamp of Moundsville, W. Va., has contract at \$6182 for the erection of three-story addition to the penitentiary.

Wilmington, N. C.—Apartment-house.—Chartered: Carolina Apartment Co., with an authorized capital stock of \$150,000, by Thos. H. Wright, Walker Taylor of Wilmington and William R. Kenan of Lockport, N. Y., to erect six-story apartment-house mentioned last week. Robert L. Shape of New York, N. Y., is preparing the plans.

Winston-Salem, N. C.—Masonic Temple.—Plans by Hook & Rogers, Charlotte, N. C., have been adopted for proposed Masonic temple, 5½ stories, 65x95 feet; granite and press brick with stone, terra-cotta and metal trimmings. An electric elevator will be installed.

Wrightsville, Ga.—Building.—Bids are being received for the erection of an 18-room brick school building for the Nannine Lou Warthen Collegiate Institute. Plans and full information can be obtained from Chas. E. Choate, architect, 403-404 Dyer Building, Augusta, Ga., or Hon. A. F. Daley, chairman building committee, Wrightsville.

Wynne, Ark.—Church.—Contract will shortly be let for the erection of edifice for the M. E. Church, South, after plans by Gibbs & Sanders, Little Rock, Ark.; structure to be 70x90 feet, brick, slate or metal roof, metal ceiling, furnace, electric lights; cost \$15,000. Pews for auditorium and opera chairs for lecture-room, windows, etc., will be required; A. T. Galloway, pastor.

RAILROAD CONSTRUCTION.

Railways.

Aberdeen, Miss.—Reported that the Illinois Central Railroad will make a survey for a line from Aberdeen to Nashville, Tenn., about 175 miles. A. S. Baldwin is chief engineer at Chicago, Ill.

Amherst, Va.—Reported that the Albemarle & Farmville Railway will be built from Bremo, on the Chesapeake & Ohio Railway (Richmond & Allegheny division), to Lindsay, Va., on the main line of the same road, about 30 miles. Mr. T. O. Troy of Amherst, who is interested in the plan, is reported as saying that the new company is entirely independent of any other corporation.

Athens, Ga.—The Central of Georgia Railway has been granted a franchise by the city in connection with the extension of its freight terminals, which work has already begun.

Austin, Texas.—The Gulf, Colorado & Santa Fe Railway has filed an amendment to the charter of the Pecos & Northern Texas Railway providing for a branch from a point on the main line in Parmer county to Brownwood, Texas, about 350 miles, and for another branch from Canyon City to a point on the south boundary of Lubbock county, about 125 miles; also an amendment to the charter of the Jasper & Eastern Railway providing for a branch from some point between De Ridder and Alexandria, La., to a point on the Kansas City, Watkins & Gulf Railroad between Woodworth and Oberlin, La., about 28 miles. C. F. W. Felt is chief engineer at Galveston, Texas.

Avard, O. T.—The Frisco system is reported to be surveying for an extension west from Avard to Fort Supply and Guymon, O. T.

J. F. Hinckley is chief engineer at St. Louis, Mo.

Charleston, W. Va.—The Carnifex & Eastern Railway of Charleston has been chartered to build a railroad from Carnifex Ferry, in Nicholas county, to Lewisburg, in Greenbrier county, about 40 miles. The incorporators are W. A. MacCorkle, W. G. MacCorkle, J. E. Chilton, T. R. English, Jr., and T. S. Clark, all of Charleston.

Charlotte, N. C.—The Propat Contracting Co. informs the Manufacturers' Record as follows: "We have been awarded contract from Seaboard Air Line Railway Co. for grading extension of yard at Monroe, N. C. We also have contract with Southern Railway Co. for grading passing tracks at Concord and Roselle, N. C."

Dallas, Texas.—Reported that the Missouri, Kansas & Texas Railway is surveying for a line from Palestine via Athens to Dallas. J. W. Petheram is chief engineer at Dallas.

Davis, I. T.—The Missouri Construction Co. has been organized and incorporated at Oklahoma City to build a railroad from Davis to Turner Falls, about six miles. The incorporators are John Maney, E. E. Brownell, A. T. Sheard and Guy V. McClure, all of Oklahoma City.

Denison, Texas.—Reported that the Missouri, Kansas & Texas Railway will reduce grades and curves on its line southward from Parsons, Kans., to the Red river. S. B. Fisher is chief engineer at St. Louis, Mo.

Fayetteville, Ark.—Mr. A. F. Wolf, president of the Frisco Lot & Land Co., writes the Manufacturers' Record saying that Messrs. N. H. Haskell, Ira L. Reeves, himself and others are planning to build a railroad from Fayetteville to Siloam Springs, 28 miles. Construction contract will be let and the line will be called the Orchard Belt Railroad. It will connect with the Kansas City Southern Railroad.

Fort Smith, Ark.—Paul Delorvin is reported as saying that surveys have been made for the proposed electric railway from Fort Smith to Jasper, Ark., and that all the necessary money has been subscribed. The line will be 72 miles long. Griff Clover of the Chateau Land Co. is said to be the prime mover in the enterprise.

Galveston, Texas.—The Galveston, Beaumont & Northeastern Railway Co. has filed a charter to build a line from Beaumont, Texas, to the northeast corner of Newton county, Texas, about 100 miles. The incorporators are A. Miller, C. E. Vidor, B. E. Sparks of Galveston, E. H. Greene, Jr., of Beaumont, C. H. Moore, C. S. Marshall, Maco Stewart, Minor Stewart and Kilburn Moore of Galveston. The Miller & Vidor Lumber Co. of Galveston is said to back the enterprise, and 15 or 20 miles will be built immediately.

Galveston, Texas.—The St. Louis, Brownsville & Mexico Railway has completed its line from Bay City to Galveston and has run the first train over the line.

Galveston, Texas.—The incorporators of the Canadian Southern Railway, charter of which has been filed at Pierre, S. D., are E. A. Hill of Galveston, Texas; P. E. Gilligan of Highmore, S. D.; A. P. Sawyer, Elias Jacobson and others at Pierre, S. D. The purpose is to build a railroad from Winnipeg, Manitoba, to Galveston, Texas, and the same incorporators have also chartered the American Construction Co. to build the line.

Galveston, Texas.—The Union Passenger Depot Co. proposes to build eight additional tracks. C. F. W. Felt is chief engineer of the Gulf, Colorado & Santa Fe Railway, which has control of the station.

Graham, Texas.—Reported that the Rock Island system is surveying to build a line from Graham, Texas, to Throckmorton, Texas, about 35 miles. J. S. Peter is chief engineer at Fort Worth, Texas.

Greenville, Ky.—Reported that Mr. Luther H. Leber, in charge of construction of the Bowling Green & Western Railroad, proposed, has contracted for a survey for a line from Greenville to Rochester, and probably to Morgantown, to connect at the latter point with the Bowling Green & Western. Survey has begun.

Gulfport, Miss.—Reported that the Gulfport & Mississippi Traction Co. proposes to extend its line eastward to Mobile and westward to New Orleans. Capt. Joseph T. Jones is president, and he is also president of the Gulf & Ship Island Railway.

Houston, Texas.—An officer of the Houston, East & West Texas Railway writes the Manufacturers' Record that plans for reducing grades and curves and also for reballasting are not yet matured.

Jackson, Ky.—The Kentucky Southeastern Railroad is reported incorporated to build a line in Breathitt, Perry, Knott and Letcher counties, Kentucky, for a distance of 70 miles.

Kansas City, Mo.—The Kansas City & Lee's Summit Railroad has been chartered to build a line 15 miles long between the two points named; capital \$150,000. The directors are William J. Knapp, Ira G. Hedrick, Herbert A. Burningham, Louis S. Ash and James F. Halpin.

Knoxville, Tenn.—The Louisville & Nashville Railroad is receiving bids to build four miles of line from a point on its road two miles south of Mentor, Tenn., to Maryville, Tenn. Julius E. Willoughby is chief engineer of construction at Knoxville.

Lake Charles, La.—The Lake Charles & Leesville Narrow-Gauge Railroad, now 30 miles long, has, it is reported, been sold by the Bradley-Ramsay Lumber Co. to the Long-Bell Lumber Co., and will be extended and also converted to standard gauge. Mr. R. A. Long is president of the Long-Bell Lumber Co. railroads at Kansas City, Mo., their name being Shreveport, Alexandria & Southwestern Railway System.

Lawton, O. T.—Guy C. Robertson, cashier of the First National Bank, is reported as saying that contract has been let to build part of the line of the Canadian Midland Railroad between Muskogee and Lawton, O. T.

Lehigh, I. T.—The Oklahoma Central Railroad has laid 14 miles of track out of Lehigh and will, it is said, complete the line to Purcell in June. Dorset Carter is president, and R. L. McWillie, chief engineer.

Lexington, Ky.—W. A. Newman is making a survey for an electric railway from Lexington via Centerville, Jacktown and Broadwell to Cynthiana, Ky., about 30 miles. J. C. Nisbet is also reported to be interested.

Louisville, Ky.—Mr. R. W. Waite, vice-president of the Louisville & Southern Indiana Traction Co., New Albany, Ind., writes the Manufacturers' Record denying the report that the company would build a new terminal in Louisville.

Louisville, Ky.—Reported that the Southern Railway will improve its terminals at 13th street and High avenue. Edward Gray is assistant engineer at St. Louis, Mo.

Lynchburg, Va.—The Southern Railway will, it is reported, build a belt line around Lynchburg, starting from Winesap, several miles north of the city, and joining the main line at a point two miles west of the union depot. W. H. Wells is engineer of construction, Washington, D. C.

Lynchburg, Va.—It is again reported that the Norfolk & Western Railway will build a detour line around Lynchburg, beginning near Forest and running to a point near Concord, 23 miles. C. S. Churchill is chief engineer at Roanoke, Va.

Madisonville, Ky.—Reported that construction has begun on the proposed Kentucky Midland Railroad from Central City, Ky., to Madisonville.

Madisonville, Ky.—George W. Feagan, chief engineer of the proposed Madisonville, Hartford & Eastern Railroad, is reported to be making the location survey. H. H. Holeman and others are interested.

Mangum, O. T.—The Colorado, Texas & Mexico Railroad Co., lately incorporated, is reported to be surveying a line between Mangum and Olustee, O. T., and Chillicothe, Texas. Officers have been elected as follows: President, Morris R. Locke of Abilene, Texas; vice-president, W. E. Oliver of Chillicothe, Texas; general solicitor, Fred Cockrell of Abilene, Texas; chief engineer, John M. Blackburn of Abilene, Texas; secretary and treasurer, H. M. Ferguson of Mangum; directors, George W. Boyd, H. M. Ferguson, T. N. Slayton, R. C. Elchols, A. M. Stewart, all of Mangum; Harry C. Irwin of Pittsburg, Pa.; W. E. Oliver, Morris R. Locke and John N. Blackburn.

Martinsburg, W. Va.—Stuart W. Walker and James F. Thompson of Martinsburg have applied to the town council for a franchise for an electric railway, and are reported as saying that application will be made for similar franchises in Shepherdstown, Charles Town, Harper's Ferry and other places in Berkeley and Jefferson counties, West Virginia; also that an electric railway 60 or 80 miles long is projected. Pittsburg and Philadelphia capital is said to be behind the plan.

McKinney, Texas.—Reported that an agreement has been made between the railroad company, the contractors and citizens which assures the building of the Texas, New Mexico & Pacific Railway west from McKinney, and that Callahan & Frye, contractors, will immediately prepare for work.

Memphis, Tenn.—Representatives of 11 railroads have met in the office of A. W. Sullivan, general manager of the Missouri Pacific Railway at St. Louis, to consider plans for a union passenger station in Memphis. Arrangements were made to incorporate in Tennessee, and the engineer was directed to make certain necessary changes in the plan.

New Orleans, La.—Mr. O. W. Crawford, 809 Hennen Building, New Orleans, is among those interested in the proposed electric railway from New Orleans to Baton Rouge, with a line to St. Tammany parish, for which investigations were recently made by Mr. John A. Shafer, civil engineer, of Indianapolis.

Minden, La.—The Minden & East Railway Co. is reported organized to build a line east and west from Minden, La. F. H. Drake is president and the principal stockholder. R. H. Miller is vice-president and W. W. Reeder is secretary and treasurer, the other directors being T. Crichton and S. G. Webb.

Natural Bridge, Ky.—Floyd Day and John C. M. Day have, it is reported, built a narrow-gauge railroad from Natural Bridge to a point within four and one-half miles of Campton, to which point it will be extended.

New Iberia, La.—The Kansas City Southern Railroad is said to be represented by C. C. Henshaw, who is now building a railroad from Leesville via New Iberia to New Orleans. He has also applied for a franchise in Jeanerette, La., being accompanied by Overton Cade. The route is from Leesville via Rayne, Youngsville, New Iberia, Jeanerette and Donaldsonville to New Orleans.

Ocala, Ga.—Reported that the Ocala & Valdosta Railroad will build an extension to connect with the Georgia Southern & Florida Railroad. J. A. J. Henderson is president at Ocala, Ga.

Owensboro, Ky.—President John B. Carter of the proposed Chicago, Indianapolis & Evansville Railroad writes from Indianapolis, Ind., to the Manufacturers' Record that the line will run from Chicago to Evansville, Ind., via Indianapolis, and the total length of line, not including the proposed branches to Owensboro, Ky., and South Bend, Ind., will be 387½ miles.

Parkersburg, W. Va.—Report from Wheeling says that the deal for the transfer of the Cairo & Kanawha Valley Railroad from the former owners, A. Chester Wilson & Sons, lumber dealers, of Parkersburg, to the Cairo & Kanawha Valley Railroad Co. has been concluded, and that the new company will make repairs and in the near future begin extensions. Charles Teter of Philippi, W. Va., is president of the company, and C. B. Kefauver and T. R. Cowell, both of Parkersburg, are also interested. Headquarters are in this city.

Perry, Fla.—Mr. A. F. Langford informs the Manufacturers' Record that he has been awarded the contract to build the Live Oak, Perry & Gulf Railroad from Perry to St. Marks, Fla.

Reidsville, N. C.—Mr. W. C. Black, engineer, has, it is reported, made an investigation of a route for the proposed railroad from Reidsville to Yanceyville, N. C. The local committee is composed of Francis Womack, chairman; John T. Oliver, secretary; P. B. Johnston, P. D. Watt, J. F. Wray and H. A. Hayes.

Rockland, Texas.—Construction is reported begun at Rockland for the Burr's Ferry, Brownell & Chester Railroad.

Rutherfordton, N. C.—Reported that the Seaboard Air Line is making surveys to improve grades and curves on the old Carolina Central Railroad. W. L. Seddon is chief engineer at Portsmouth, Va.

San Antonio, Texas.—An officer of the San Antonio & Aransas Pass Railway writes the Manufacturers' Record that he does not know of any plans to make large expenditures for rebuilding or for laying heavier rails.

Sanford, N. C.—Mr. H. P. Edwards, superintendent of the Atlantic & Western Railroad, writes the Manufacturers' Record concerning the reported plan for extension that nothing is definitely known yet in regard to building beyond Broadway, N. C.

Salisbury, N. C.—A citizens' meeting has appointed a committee to devise ways and means to secure an extension of the Norfolk & Western Railway from Winston-Salem to Salisbury, about 35 miles, and thence southward. The committee are N. B. McCannless, T. H. Vanderford, J. M. Maupin, T. B. Brown, L. E. Heilgen and John S. Henderson. Chief engineer of the Norfolk & Western is C. S. Churchill, and president is L. E. Johnson, both at Roanoke, Va.

Sloan's Valley, Ky.—The Sloan's Valley Railway Co. is reported incorporated in the interest of the Cincinnati, New Orleans & Texas Pacific Railway to build a line 25 miles long from Sloan's Valley to the confluence of the Laurel and Cumberland rivers. G. B. Nicholson is chief engineer at Cincinnati, Ohio. Incorporators are Samuel Spencer, W. A. Garrett, W. J. Murphy and others.

Snow Hill, N. C.—Reported that the Hines Bros. Lumber Co. will build a railroad from Snow Hill to Kinston, N. C., about 15 miles.

Southport, N. C.—Charles N. Welr of Philadelphia is reported to be promoting the

Southport, Carolina & Western Railroad Co., which proposes to build a line from Wilmington to Southport, 30 miles.

St. Louis, Mo.—Concerning a press report that the Missouri, Kansas & Texas Railway would build two lines in Texas, one from Trinity to Granger and another from Austin to San Marcos, an official of the company writes the Manufacturers' Record that he knows nothing of any such projects.

Texarkana, Texas.—Mr. V. E. Buron, general freight agent of the Northeast Texas Railway, writes the Manufacturers' Record that the company has not decided whether it will let contract for extension or to build it themselves. The proposed extension is to either Daringfield or Hughes Springs, 15 miles from Munz, the present terminus, and the company has five miles of steel on hand to be laid. Already four miles of track are laid beyond Munz. Mr. Gus Munz is president and chief engineer. The proposed extension from Redwater to Texarkana is in abeyance, but it will eventually be constructed.

Van Buren, Ark.—The White Sulphur Springs Railroad Co., which proposes to build a line from Van Buren to White Sulphur Springs near Uniontown, has elected directors as follows: Joseph Hansen, John H. Van Brunt, Frank W. Russell, Joseph A. Fullerton, John G. Parkenson, St. Joseph, Mo.; E. L. Matlock, J. L. Ren, W. H. H. Shibley, L. T. Sherwood, Van Buren, and R. Comstock and T. F. Wood of Uniontown.

Vicksburg, Miss.—The Vicksburg & Gulf Railroad Co. has been incorporated to build from Vicksburg to Gulfport, Miss., either via Natchez or with a branch to that city. The incorporators are P. M. Harding, B. W. Griffith, W. H. Fitzhugh of Vicksburg, W. W. Hungerford, D. M. Graham, M. C. Lott, George P. Money and P. H. M. Tiffin of Gulfport and M. C. May of Pass Christian.

Waycross, Ga.—Survey is reported completed from Waycross to St. Mary's, 59 miles, by L. W. Roberts of Atlanta for the proposed Waycross, Satilla & St. Mary's Railway, chartered by Dr. H. A. Cannon and others of Waycross. Officers were elected as follows: Dr. H. A. Cannon, president; W. E. Simmons, vice-president; Dr. W. K. Meeks, secretary and treasurer; general counsel, Candler, Thompson & Hirsch, Atlanta; Myers & Parks, Waycross; directors, Dr. H. A. Cannon, W. E. Simmons, D. Lott, R. T. Pitch, Dr. W. H. Meeks, W. H. Cason and Dr. W. B. Hamby.

Street Railways.

Albany, Ga.—Mr. John A. Betjeman, secretary of the Albany Business League, informs the Manufacturers' Record that a committee has been appointed to investigate the advisability of municipal ownership for the street railway which is to be built in Albany. The city now owns all its public utilities.

Beaumont, Texas.—The Beaumont Traction Co. proposes to build an extension one and one-half miles long.

Hampton Roads, Va.—The Hampton Roads Traction Co. has filed a deed for \$700,000 and may, it is said, build extensions.

Macon, Ga.—The Macon Railway & Light Co. proposes to build an extension to Ulmond's Hill.

Miami, Fla.—The Miami Electric Railway Co. has elected officers as follows: H. C. Roome of New York, president; J. H. Tatum of Miami, vice-president; W. M. Brown of Miami, secretary and treasurer; these, with A. A. Gery of Reading, Pa.; B. B. Tatum and S. M. Tatum, to be directors. It is said that the company will build a line immediately from the passenger depot to 12th street, and thence along 12th street and across the Miami river through the Riverside addition.

Morgantown, W. Va.—The South Morgantown Traction Co. has been incorporated to build a line to the Standard Oil pumping station. The incorporators are J. Leonard Smith, John Medagan, Samuel M. Gara, C. D. Willey, C. N. Reay and John E. Price, all of Morgantown, W. Va.

Yazoo City, Miss.—The Board of Aldermen has directed the mayor to appoint a committee of three aldermen and citizens to secure plans and specifications and to learn the cost of building a street railway. It is proposed to issue bonds to build the road provided the cost will not be over \$50,000. Later: Mayor Holmes appointed the following committee: Aldermen Brickell, North and Barnwell, Messrs. W. F. Cummins, E. P. Swain and J. G. McGuire.

An Announcement.

Announcement is made by the Edgemoor Iron Co. of Edgemoor, Del., that Mackenzie, Quarrier & Ferguson, 114 Liberty street, have been appointed its New York representatives. All inquiries for water-tube boilers are solicited and will receive prompt attention.

MACHINERY, PROPOSALS AND SUPPLIES WANTED.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Aluminum.—Southwestern Iron Co., Guthrie, O. T., wants aluminum in the ingot.

Automatic Sprinklers.—B. F. Huntley Furniture Co., Winston-Salem, N. C., wants prices on sprinkler system.

Bank Fixtures.—Union Bank & Trust Co., Houston, Texas, will want fixtures, furniture, steel vaults, safety-deposit boxes.

Belting.—Rankin-Tuck Paint Co., Birmingham, Ala., wants belting.

Bobbin Machinery.—B. F. Folger, Dobson, N. C., wants machinery for bobbin plant.

Boiler.—Fred Oliver, Portsmouth, Va., wants 200 to 300 horse-power boiler. (See "Engine and Boiler.")

Boiler.—Otter River Stone Co., Bramwell, W. Va., wants new or second-hand 60-horse-power stationary tubular boiler. State condition and price delivered at Lynchburg, Va.

Boiler.—See "Engine and Boiler."

Boiler.—Black Rock Light & Power Co., Black Rock, Ark., wants a 100-horse-power boiler. Address C. L. Cummings, Prairie Grove, Ark. (See "Engine and Boiler.")

Boiler Specialties.—Fred Oliver, Portsmouth, Va., wants a feed-water pump and heater suitable for 200 to 300-horse-power boiler. Quote price f. o. b. Baltimore, Md., and Annapolis, Md. (See "Engine and Boiler.")

Box Machinery (Wooden).—Dunn Machinery Co., 51 Marietta street, Atlanta, Ga., wants machinery for making wooden boxes; complete equipment for daily capacity of 2500 to 3000 boxes.

Brick Machinery.—Porter-Wrigley Company, 1415 Empire Building, Atlanta, Ga., wants one nine-inch dry-pan for brickyard and one 8x4½x2½ hand represser; both second-hand.

Brick Machinery.—Miller & Kennard, American National Bank Building, Tampa, Fla., wants addresses of manufacturers of machinery for making sand-lime brick.

Broom Machinery.—C. H. Martin, 618 Clinton street, Harriman, Tenn., wants broom machinery. (See "Handle Machinery.")

Buggy-factory Equipment.—Oxford Buggy Co., R. W. Lassiter, president, Oxford, N. C., wants machinery and equipment for buggy factory, buggy material and leather.

Building Equipment.—Amelia Beach Co., Fernandina, Fla., wants addresses of manufacturers of rolling doors or blinds.

Building Materials.—J. F. Barbour & Co., Roanoke, Va., wants bids on beams, etc.

Building Materials.—East Side Improvement Co., Nashville, Tenn., wants hollow tile or other partition construction, stained and plate glass.

Building Materials.—John Loop, Morristown, Tenn., wants galvanized iron for front.

Building Materials.—Rankin-Tuck Paint Co., Birmingham, Ala., wants building materials.

Building Supplies.—S. J. Watson, Johnston, S. C., wants slate and tin shingles, mantels, hardware, etc.

Canal Construction.—Chester B. Davis, engineer, Harlingen, Texas, will let contract for the construction of irrigation canal, and desires references, statement of experience and description of equipment from prospective contractors.

Cannery Equipment.—T. E. Stribling, Box 63, Seneca, S. C., wants machinery for cannery.

Carbonating Machinery.—Cosmopolitan Bottling Co., Ltd., New Orleans, La., wants carbonating machinery.

Castings.—Crosby Automatic Farm Gate Co., Heber, Ark., wants prices on castings (gray) by the pound.

Coal.—John O. Moore & Bros., Culverton, Ga., want prices on steam coal for present and July delivery f. o. b. cars Culverton.

Concrete-block Machinery.—W. W. Gresh-

am, Milford, Va., wants information regarding machinery and equipment for making cement building blocks, cement bricks, fence-posts, etc.

Concrete Blocks.—John S. Stewart, Houston, Texas, wants information as to cost, stability and strength of concrete blocks as a building material.

Conveying Equipment.—Hub Machine & Tool Co., 621-623 Cherry street, Philadelphia, Pa., wants catalogues from manufacturers of overhead tracking devices.

"Cotton-mill Machinery.—A. M. Capen's Sons, 60 Pearl street, New York, want second-hand cotton-mill machinery.

Crusher.—H. B. Wordehoff, Plant City, Fla., wants shell crusher.

Crusher.—J. F. Adams Engineering Co., Calle De Cuba 76 y 78, Room 44, Havana, Cuba, wants a small hand crusher to break marble into one-quarter-inch pieces, to be used mostly in making monumental columns, tiling of different colors and decorating cement work.

Distilling Plant.—Cosmopolitan Bottling Co., Ltd., New Orleans, La., wants distilling plant to distill 20,000 gallons of water daily.

Ditching, etc.—John M. Murch, county auditor, Galveston, Texas, will receive bids until March 26 for grading, bulkheading and sidewalk, etc., on what is known as the Port Bolivar Lighthouse road; for grading, ditching, etc., of Evergreen road near Weber place at Arcadia; for ditching and grading road down the island known as East Side Stockpen road, all in accordance with specifications on file in county auditor's office. Usual rights reserved.

Drilling Equipment.—Franklin Oil & Gas Co., Keyser, W. Va., will probably want equipment for drilling oil and gas wells.

Drop Forgings.—See "Steel Castings."

Dry-kill.—Moore-Barnes Company, Brunswick, S. C., wants dry-kill outfit.

Dry-kill Equipment.—B. F. Huntley Furniture Co., Winston-Salem, N. C., wants dry-kill equipment.

Dry-kilns.—Carter-Kelley Lumber Co., Lufkin, Texas, will be in the market in a month or six weeks for dry-kilns.

Electrical Equipment.—Central Home Telephone Co., Louisville, Ky., wants electrical equipment.

Electrical Equipment.—See "Overall Factory."

Electrical Equipment.—W. H. Russel, Spartanburg, S. C., wants electrical equipment for driving machinery in foundry and machine shop.

Electrical Equipment.—Rankin-Tuck Paint Co., Birmingham, Ala., wants dynamos and electric motors.

Electrical Machinery.—See "Power Plant."

Electric-light Plant.—Standard Lumber Co., Aurora, N. C., wants electric-light plant.

Electric-light Plant.—The Electric Contracting Co., Havana, Cuba, wants prices on an electric-illuminating plant whose load will not exceed capacity of an 80-horse-power engine to operate.

Electric-light Plant.—Bids will be received until April 9 at the office of A. H. Graef, clerk, Rockmart, Ga., for equipment for electric-light plant, including boiler, high-speed engine, heater, pumps, switchboard, series arc-light system, electric-light and steam material and building. Prospective bidders will name the apparatus they wish to submit bids upon. Bids upon machinery will be received only from manufacturers. For copy of specifications address Joseph M. Roman & Co., engineers, Century Building, Atlanta, Ga.; J. A. Fambro, mayor.

Engine.—John F. Weekly, Ulm, S. C., wants a 15-horse-power gasoline engine.

Engine.—H. B. Wordehoff, Plant City, Fla., wants 8 or 10-horse-power gasoline engine.

Engine.—The Electric Contracting Co., Havana, Cuba, wants price on an 80-horse-power gasoline engine.

Engine.—J. F. Adams Engineering Co., Calle De Cuba, 76 y 78, Room 44, Havana, Cuba, wants addresses of manufacturers of hot-air engines.

Engines.—W. A. Nunnally, Richmond, Va., wants new or second-hand gasoline engines for use on boats 18 feet to 40 feet.

Engine and Boiler.—See "Electric-light Plant."

Engine and Boiler.—S. Ellington, Wentworth, N. C., wants engine and boiler. (See "Saw-mill.")

Engine and Boiler.—Agnew Electric Co., Charleston, W. Va., wants engine and boiler.

Engine and Boiler.—Black Rock Light & Power Co., Black Rock, Ark., wants 100-horse-power engine and 125-horse-power boiler. Address C. L. Cummings, Prairie Grove, Ark.

Engine and Boiler.—Fred Oliver, Portsmouth, Va., wants 150 to 250-horse-power Corliss engine and 200 to 300-horse-power boiler; wants engine and boiler to carry 125 pounds working steam pressure. Quote prices f. o. b. Baltimore, Md., and Annapolis, Md.

Excelsior Machinery.—Lucian Strauss, Mayesville, S. C., wants excelsior machinery.

Filling.—Board of Public Works, City Building, Forsyth and Ocean streets, Jacksonville, Fla., will receive bids until April 2 for filling with earth low lands owned by the city bordering on Hogan's creek to be used for park purposes; estimated quantity under contract to be approximately 100,000 cubic yards; plans and specifications on file in office of Philip Prioleau, city engineer. Certified check to the amount of \$500, payable to P. A. Dignan, chairman Board of Public Works, must accompany each bid. For further information apply to city engineer.

Fire Hose.—Sealed proposals addressed to Board of Awards will be received until March 28 at the office of Harry F. Hooper, city register, City Hall, Baltimore, Md., for furnishing fire department with 10,000 feet fabric fire hose, rubber lined, two and one-half inches internal diameter, fitted with Baltimore standard couplings, Higbee thread, in 50-foot sections, each section with couplings, to weigh not less than 60 pounds; P. W. Wilkinson, secretary board of fire commissioners, City Hall.

Fire-escapes.—D. D. Rogers, secretary board of public instruction, Daytona, Fla., wants catalogues, price-lists, etc., on fire-escapes for school buildings.

Fire Plugs.—Town of Senatobia, Miss., wants catalogues of fire plugs. Address F. G. Gregory, superintendent municipal electric-light and water-works. (See "Water-works Equipment.")

Fire-protection apparatus.—See "Automatic Sprinklers."

Fire-station Equipment.—J. F. Barbour & Co., Roanoke, Va., want estimates on brass sliding poles for fire stations.

Foundry Equipment.—W. H. Russel, Spartanburg, S. C., wants foundry equipment; electric drive to be used on each machine.

Foundry Supplies.—Atlanta Utility Works, Inc., East Point, Ga., wants foundry supplies.

Foundry Supplies.—E. S. Burgess, Route 2, Salisbury, N. C., wants new and second-hand foundry supplies.

Furniture.—See "Bank Fixtures."

Furniture-factory Equipment.—B. F. Huntley Furniture Co., Winston-Salem, N. C., wants molders, planers, band saw, carving machines, glue-room equipment, etc.

Gas Machines.—S. J. Watson, Johnston, S. C., wants gas machines.

Ginnery Equipment.—St. George Cotton Oil Co., St. George, S. C., will receive bids until March 29 for equipment for four 70-saw cotton gins. One double-revolving steam packing press will be used. Address J. B. Johnston. (See "Oil-mill Machinery.")

Glass Bottles, etc.—C. B. Davis, Chase City, Va., wants addresses of manufacturers of glass bottles and glass stoppers.

Grinding Machinery.—See "Paint Machinery."

Handle Machinery.—C. N. Martin, 618 Clinton street, Harriman, Tenn., wants machinery for making broom handles. (See "Broom Machinery.")

Hardware.—See "Building Supplies."

Heater.—See "Electric-light Plant."

Heating Apparatus.—East Side Improvement Co., Nashville, Tenn., wants hot-water-heating system.

Heating Apparatus.—J. A. Roady, president school board, Pauls Valley, I. T., wants prices on steam-heating apparatus.

Hoisting Equipment.—W. N. McAnge, Suffolk, Va., wants hoisting outfit of small capacity.

Hoisting Engine.—Fred Oliver, Portsmouth, Va., wants hoisting engine without boiler. Quote price f. o. b. Baltimore, Md., and Annapolis, Md.

Ice Machinery.—Dr. H. J. Van Dueren, Mineral, Va., wants information on machinery and equipment for ice plant.

Ice Machinery.—Citizens' Light & Power Co., Lenoir, N. C., wants catalogues, prices, etc., on ice-making machinery.

Ice Plant.—General Engineering & Supply Co., Colorado Building, Washington, D. C., wants 10-ton ice plant; can system preferred.

Iron Gates.—Crosby Automatic Farm Gate Co., Heber, Ark., wants prices on iron gates.

Iron Shutters.—H. S. Rose, Florence, S. C., wants 25 to 30 iron shutters for brick building.

Laundry Machinery.—T. E. Stribling, Box

63, Seneca, S. C., wants machinery for steam laundry.

Laundry Machinery.—See "Water Heater."

Levee Work.—St. Francis Drainage District, Piggott, Ark., will open bids April 2 for enlarging 12 miles of levee, building 12 miles of levee and dredging 30 miles of the main ditch.

Linoleum.—Corinth Cotton Oil Co., Corinth, Miss., wants addresses of manufacturers of linoleum.

Logging Equipment.—See "Railway Equipment."

Logging Equipment.—E. L. Thomas, Winder, Ga., wants log-skidding outfit.

Machine-shop Equipment.—De Soto Foundry & Machine Co., Ltd., F. Kavanaugh, president, Mansfield, La., wants a second-hand driving-wheel lathe not less than 66 inches; also one hydraulic wheel press not less than 150 tons pressure.

Machine-shop Equipment.—W. H. Russel, Spartanburg, S. C., wants machine-shop equipment; electric drive to be used on each machine.

Machine Tools.—Soho Iron Works, 223 North Calvert street, Baltimore, Md., wants machine-shop tools and materials; new and second-hand.

Machine Tools.—G. B. Crowe, president Yolande Coal & Coke Co., 312 First National Bank Building, Birmingham, Ala., wants plain drill press 24 inches, radial drill press 2x10 feet, lathe 28 inches to 36 inches swing, 22 feet to 36 feet; shaper 24 inches, Gould & Eberhard; triple gear.

Machine Tools.—Agnew Electric Co., Charleston, W. Va., wants machine tools.

Machine Tools.—E. S. Burgess, Route 2, Salisbury, N. C., wants new and second-hand machine tools.

Mantels.—A. A. Dragoo, 301 West 6th street, Chattanooga, Tenn., wants 10 mantels.

Mechanical Equipment.—Henry B. F. Macfarland, Henry L. West, John Biddle, commissioners, Washington, D. C., will receive bids until April 21 for a mechanical equipment for the Municipal Building. Information on application to Capt. Chester Harding, corps of engineers, U. S. A., supervisor of construction, Municipal Building, Washington, D. C. Certified check for \$10,000 must accompany each bid; Leslie M. Shaw, Secretary of the Treasury.

Milling Machine.—Southern Shuttle & Spool Co., Greensboro, N. C., wants a small-size second-hand milling machine.

Milling Machinery.—McKinley Mining Co., W. L. Eagleton, secretary, Pawnee, O. T., wants zinc and lead mill.

Mill Supplies.—American Peanut Corporation, Norfolk, Va., wants pulleys, hangers, shafting, belting, etc.

Mining Equipment.—Goff Coal Co., Williamson, W. Va., wants coal screens.

Oil-mill Machinery.—St. George Cotton Oil Co., St. George, S. C., will receive bids until March 29 for equipment for 20-ton cottonseed-oil mill. Address J. B. Johnston. (See "Ginnery Equipment.")

Oil Machinery (Fish).—See "Fertilizer Machinery."

Oil-mill Machinery.—P. S. Cooper, Mullins, S. C., wants prices on small cottonseed-oil-mill outfit.

Oil Mills.—John O. Moore & Bros., Culverton, Ga., wants addresses of builders of 5 and 10-ton oil mills.

Overall Factory.—C. R. Turner, Carrollton, Ga., wants information regarding machinery, etc., for overall factory, also on motors suitable for operating same.

Paint Machinery.—Hanna Milling Co., Robert H. Partridge, vice-president, Washington, D. C., wants mineral-paint grinding machinery of all kinds.

Pattern-shop Supplies.—Atlanta Utility Works, Inc., East Point, Ga., wants pattern-shop supplies.

Paving.—Street Committee of the city council, Columbus, Ga., will receive bids until April 2 for constructing about 60,000 square yards of street pavement. Bids wanted on vitrified brick, bitulithic and macadam. Usual rights reserved. For specifications and other information address W. C. Campbell, superintendent of public works.

Paving.—J. T. Manley, mayor, Benwood, W. Va., will open bids March 26 for approximately 6000 square yards of brick paving, 60 cubic yards of concrete support walls and 70 cubic yards of macadamizing. Usual rights reserved.

Paving.—City of Denison, Texas, will receive bids until April 5 for constructing sidewalks on Gandy street within Improvement District No. 1 of vitrified brick and five feet wide. Usual rights reserved.

Paving.—City Secretary, Paris, Texas, will

receive bids until April 2 for furnishing material and constructing about 2300 square yards of vitrified-brick pavement on a concrete foundation on Kaufman street, also 5800 yards on South Main street, in accordance with plans and specifications on file at office of city engineer. Specifications, instructions to bidders and blank proposals will be kept on file at office of city engineer, and extra copies may be obtained on request. Certified check for 5 per cent. of amount of bid must accompany each proposal. Usual rights reserved; T. C. Bishop, mayor.

Peanut Machinery.—American Peanut Corporation, Norfolk, Va., wants peanut roasters, blanchers, most improved machinery for making peanut butter and other by-products, including candy, confectionery from peanuts, etc.

Piping.—Hazelwood Manufacturing Co., Waynesville, N. C., wants 6000 or 8000 feet of one-inch dry-kiln pipe; second-hand in good condition.

Piping.—See "Pumping Equipment."

Planing Machinery.—Nath. M. Chambless, Hollins, Ala., wants planing-mill machinery. (See "Saw-mill Machinery.")

Planing Mill.—El Paso Flume & Lumber Co., 815 North Kansas street, El Paso, Texas, wants equipment for planing mill. (See "Saw-mill.")

Postal-department Supplies.—Proposals for general supplies for the United States Post-office Department and the Postal Service will be opened on April 20. The supplies are for the year from July 1, 1906, to June 30, 1907, and the four years from July 1, 1906, to June 30, 1910. Complete plans and specifications have been issued in book form, including proposal blanks and all necessary information. The supplies needed will include stationery, rubber stamps, numbering machines, seals, boxes, baskets, dry goods, cordage, hardware, trucks, belting, electrical supplies, chemicals, oils, paints, glass, lumber, household supplies, etc. For a copy of the proposals and specifications address The Purchasing Agent, Postoffice Department, Washington, D. C.

Power Plant.—Fred Oliver, Portsmouth, Va., wants second-hand power plant complete for brickyard. (See "Engine and Roller.")

Power Plant.—El Paso Flume & Lumber Co., 815 North Kansas street, El Paso, Texas, wants steam power with electric drive.

Printing Plant.—W. C. Smith, Jefferson, Ga., wants addresses of manufacturers of small embossing presses and dies.

Pumping Equipment.—Belle Meade Land Co., 406 Union street, Nashville, Tenn., wants pumping equipment for reservoir, pipes, etc.

Pumping Plant.—W. N. McAnge & Co., Suffolk, Va., wants pumping outfit of small capacity.

Pumps.—See "Electric-light Plant."

Quarrying Equipment.—Otter River Stone Co., Bramwell, W. Va., wants derricks for quarry; 6 to 10 tons capacity.

Railway Equipment.—Moore-Barnes Company, Brunson, S. C., wants five to seven miles 25-pound to 30-pound relaying steel rails, one 10 to 20-ton locomotive, logging cars.

Railway Equipment.—Havana Central Railroad Co., Havana, Cuba, will buy construction materials, machinery and rolling stock needed in extending its railways 150 miles, work having already been commenced. Bidders will include depot, 150x400 feet, concrete and steel; freighthouse and sheds, 800x120 feet of steel and iron; harbor piers, warehouses, etc. A. W. K. Billings, Havana, is chief engineer; New York headquarters of company at 52 Broadway.

Railway Equipment.—Hanna Milling Co., Robert H. Partridge, vice-president, Washington, D. C., wants locomotive, ore cars and light rails.

Railway Equipment.—Nath. M. Chambless, Hollins, Ala., wants equipment for logging road.

Railway Equipment.—A. F. Wolf, president Orchard Belt Railroad, Fayetteville, Ark., wants steel rails.

Refrigerating Machine.—Cosmopolitan Bottling Co., Ltd., New Orleans, La., wants 5 to 10-ton refrigerating machine.

Road Machinery.—Charles V. Moore, chairman special road committee Terrebonne parish, Schriever, La., will receive bids until April 11 on two latest-improved road machines to be used on parish road. A trial of machines on the roads near Houma, La., on April 12 would be preferred. Usual rights reserved.

Roofing.—See "Building Supplies."

Saw-mill.—S. Ellington, Wentworth, N. C., wants a hand-saw-mill outfit with engine and boiler.

Saw-mill.—Charles G. Royster, Bullock, N. C., wants an automatic short-log mill.

Saw-mill.—Carter-Kelley Lumber Co., Lufkin, Texas, will want machinery in a month or six weeks for complete single band-saw mill with planing mill.

Saw-mill.—John F. Weekly, Ulmors, S. C., wants a saw-mill.

Saw-mill.—El Paso Flume & Lumber Co., 815 North Kansas street, El Paso, Texas, wants equipment for saw-mill. (See "Planing Mill.")

Saw-mill Machinery.—Moore-Barnes Company, Brunson, S. C., wants saw-mill machinery.

Saw-mill Machinery.—Nath. M. Chambless, Hollins, Ala., wants saw-mill machinery. (See "Planing Machinery.")

Sewerage System.—F. H. Beeman, Gainesville, Fla., will want syphons, I beams and roofing, expanded metal; also flush-tank syphons, C. I. tops for manholes and flush tanks, 240 sewer braces, etc.

Sewerage System.—City of De Land, Fla., wants plans for the construction of sewerage system offering a practical plan for the disposal of same, city having no running water. Address V. W. Gould, secretary board of health.

Sewerage System.—Sewer Commissioners, Milledgeville, Ga., will open bids April 12 for the construction of sewerage system, for which \$20,000 is available; Julius A. Horne, mayor.

Sewerage System.—Town of Oxford, N. C., wants estimates for a map, specifications, etc., for a complete sewerage system. Address J. P. Stedman, chairman sewer committee.

Sewerage System.—Jefferson County Sanitary Commission, Birmingham, Ala., will receive bids until April 5 for constructing about 8000 feet of branch sewers. Usual rights reserved; Julian Kendrick, city engineer.

Sewing Machines.—See "Overall Factory."

Sheet Metals.—Charleston Sheet Metal Works, J. R. Shanklin, president, Charleston, W. Va., wants prices on sheet metals.

Shredding Machines.—Claude Hennessee, P. O. Box 301, Albany, Ga., wants machinery for shredding rags and shucks for horse-collar fillings.

Stamp Mill.—Hanna Milling Co., Robert H. Partridge, vice-president, Washington, D. C., wants stamp mill.

Steam Drills.—Hanna Milling Co., Robert H. Partridge, vice-president, Washington, D. C., wants steam drills.

Steam Machinery.—See "Power Plant."

Steel Castings.—C. B. Ford Company, Richmond, Va., wants small steel castings and malleable-iron castings and drop forgings, such as crankshafts, valves, etc., for gas-engine engines.

Steel Vaults.—Union Bank & Trust Co., Houston, Texas, will want steel vaults. (See "Bank Fixtures.")

Tanks, etc.—Bids marked "Proposals for Constructing Water Tanks and Screening Quarters at Fort De Soto, Fla.," and addressed to Constructing Quartermaster, Fort De Soto, Fla., will be received until March 31 at the office of constructing quartermaster, Fort De Soto, Fla., for constructing two water tanks and screening two sets of civilian quarters at post. Plans, specifications, blank proposals and instruction to bidders furnished on application; Albert T. Bishop, second lieutenant, artillery corps, constructing quartermaster.

Tinsmith Appliances.—J. F. Adams Engineering Co., Calle De Cuba, 76 y 78, Room 44, Havana, Cuba, wants addresses of manufacturers of tinsmith appliances.

Tubing.—Crosby Automatic Farm Gate Co., Heber, Ark., wants prices on tubing.

Water Heater.—Eastern Kentucky Asylum for the Insane, J. L. Redwine, superintendent, Lexington, Ky., wants information regarding hot-water heater for laundry plant; will use four or five washers and two or three extractors.

Water-turbine Machinery.—Hub Machine & Tool Co., 621-23 Cherry street, Philadelphia, Pa., wants catalogues on water-turbine machinery.

Water-works.—Georgia Manufacturing & Public Service Co., Marietta, Ga., is receiving bids for improvements to water-works system, including about one and one-half miles of pipe line from the storage basin to the filter plant, the building of a dam about 20x400 feet in the formation of the storage basin, and a building for containing the filter plant, pumping station and settling basin, having about 200 cubic yards, and concrete. Plans and specifications may be had on application. Engineer's representatives may be seen at site.

Water-works Equipment.—Town of Senatobia, Miss., wants catalogues on air-lift pump for water-works, piping, fire plugs, etc. Address F. G. Gregory, superintendent municipal electric-light and water-works.

Water System.—Bids will be received until April 13 at the general depot of the quartermaster's department, Washington, D. C., for extension of water-distribution system at Fort Myer, Va. Plans and specifications may be seen and information obtained on application. United States reserves usual rights. Envelopes to be marked "Proposals for Extension of Water-Distribution System" and addressed to Capt. A. W. Butt, quartermaster, U. S. A., in charge of depot.

Wire-hoop Machinery.—W. N. McAdge & Co., Suffolk, Va., wants machinery for making wire hoops.

Wood-extract Plant.—Donk Aydelott, Tullahoma, Tenn., wants to engage manager to install and operate wood-extract plant.

Woodworking Machinery.—Tazewell Electric Light & Power Co., Tazewell, Va., wants pin and bracket machinery.

Woodworking Machinery.—J. Allen Littrell Hoop Co., West Point, Tenn., wants new or second-hand cut-hoop machinery.

Woodworking Machinery.—Claude Hennessee, P. O. Box 301, Albany, Ga., wants addresses of manufacturers of lathes for making hoe and ax handles.

Woodworking Machinery.—S. E. Smith, Oakton, Va., wants a second-hand small-size planer and matcher.

Woodworking Machinery.—See "Saw-mill."

Woodworking Machinery.—See "Box Machinery (Wooden)."

Woodworking Machinery.—Hazelwood Manufacturing Co., Waynesville, N. C., wants a single-end double-head tenoner with copes and a triple-drum sander; second-hand in good condition.

Woodworking Machinery.—See "Bobbin Machinery."

MEXICO.

Mining.—The San Pablo Mining Co. has been organized to operate mines in Etzatlan district, State of Jalisco, with capital stock of \$2,500,000 gold; J. L. Makeever, president, Chicago, Ill.; Dr. J. E. Groff, vice-president, Doylestown, Pa.; Sanford Makeever, treasurer, New York; M. M. Makeever, secretary, Philadelphia, Pa.; Frank G. Stevens, superintendent of mines.

Sugar Factory.—I. C. Thorensen, W. M. Roylance, Adolfo Fenochio and Guillermo Thompson, Mexico City, have applied for a concession to establish factory to manufacture beet sugar; \$3,000,000 gold will be invested.

Railways.

Steam Railroad.—Reported that contract has been let to B. T. Davis of the City of Mexico to complete the construction of the Pan-American Railway from Pijilipan to the Guatemalan boundary, 241 kilometers. J. M. Neeland is vice-president of the company.

INDUSTRIAL NEWS OF INTEREST

Hardware Business for Sale.

An established retail hardware stock and fixtures is offered for sale. It is claimed that the business is profitable, and reasons for selling will be explained to inquirers. Address "X. Y. Z., Richmond, Va.

Wants Cotton Lands.

Owners of cotton-bearing lands which are on the market will be interested in knowing that a tract of 2500 or more acres, with or without improvements, is desired by a party in New York. Communications are requested to be addressed to G. W. W., Hotel Brevoort, New York city.

L. K. Hirsch in Philadelphia.

Buyers of steel rails, iron and steel, etc., who have been interested in the services which the L. K. Hirsch Company of Pittsburgh, Pa., offers, are invited to note that the company is about to establish another branch office. This new office will be located in the Arcade Building, Philadelphia, Pa.

A Diehl Electrical Contract.

The Diehl Manufacturing Co. of Elizabethport, N. J., has just completed the installation of an electrical equipment of a large manufacturing plant at St. John, P. Q., Canada. The plant consists of four 250-kilowatt engine-type generators at 150 R. P. M. and one 100-kilowatt at 260 R. P. M.; also a 100-kilowatt motor generator set and about 30 motors varying in size from 75 horsepower to 7½ horsepower.

"Gibraltar" Black Sheet Packing.

The attention of users of rubber packing is called to "Gibraltar" black-sheet packing, manufactured by the New Jersey Car Spring & Rubber Co., Jersey City, N. J. It is claimed for this packing that it will not harden or burn under severe heat and will not blow out under the highest pressure, nor is it affected by oils, ammonia or alkalis. It is manufactured in stock sizes of 1-32, 1-16, 3-32 and ¼ inch. Send for sample.

Building a Big Filter Plant.

In connection with the construction of the municipal water-works at Columbia, S. C., there is being built a 6,500,000-gallon filter plant, the Greer Filter Co. of Philadelphia, Pa., having the contract. This company is also equipping the 30,000,000-gallon filter and water-softening plant at Columbus, Ohio; installing the equipment for the 112,000,000-gallon plant at Cincinnati, Ohio, for the Kerchner Construction Co., and building a 4,000,000-gallon plant at Bellaire, Ohio.

A Rogers-Brown Announcement.

Messrs. Rogers, Brown & Co., pig-iron and coke, Cincinnati, Ohio, announce that James R. Darragh has been appointed resident manager of their Pittsburgh office, Farmers' Bank Building, Pittsburgh, Pa. Mr. Darragh has been connected with the iron trade in and around Pittsburgh for a number of years, and during the past three years has been associated with the Rogers-Brown Pittsburgh offices. The firm believes that he is well equipped to

look after their interests in the Pittsburgh territory.

Big Contract for Brick.

What is considered one of the largest contracts for brick that has ever been secured by a Southern manufacturer was recently awarded to the Alexander A. Scott Brick Co. of Knoxville, Tenn. The contract calls for 10,000,000 bricks to be shipped to Toledo, Ohio, for use in the construction of a large pulp factory. The Alexander A. Scott Brick Co. operates large brick kilns west of Knoxville near Bearden, using a good grade of clay in the manufacture of its product, and is said to be well equipped to fill the contract.

General Company Busily Engaged.

There is plenty of important engineering work engaging the attention of the General Engineering & Supply Co., offices in the Colorado Building, Washington, D. C., yet the company is fully prepared to undertake other contracts which may be available at this time. The company is now completing a big filtration plant for parties in Washington and attending to a considerable amount of work for the Fifth-Sterling Steel Co. of Pittsburgh, which is building a branch armor-plate plant at Gelsboro Point, Washington, D. C.

Cincinnati Lathe & Tool Co.

The Cincinnati Lathe & Tool Co., 2730-2732 Spring Grove avenue, Cincinnati, Ohio, announces that it has recently purchased the lathe business of the Fossdick Machine Tool Co. of that city, and will manufacture a 16-inch lathe with the W. T. Emmes patent-feed device. The plant is located in the machine-tool district of Cincinnati, and will be ready to operate by April 1, 1906. Orders are already being booked for future deliveries. Messrs. W. C. Heindel and A. B. Sowden are president and superintendent, respectively, of the Cincinnati Lathe & Tool Co.

Heavy Orders for Electric Motors.

The railway department at the East Pittsburgh works of the Westinghouse Electric & Manufacturing Co. has received within the last few days some very extensive orders for electric-railroad machinery from the Metropolitan West Side Elevated Railway Co. of Chicago, the Bluffton & Marion Construction Co. of Bluffton, Ind.; the Denver City Tramway Co. of Denver, Col.; the Pacific Electric Co. of Los Angeles, Cal., and the Public Service Corporation of New Jersey. This makes altogether contracts calling for 702 motors, and with the additional machinery included these orders represent more than \$1,000,000.

Frevert Machinery Co.

Buyers and users of metal-working tools and machinery of all kinds will be interested in the information that the Frevert Machinery Co. has established a salesroom and offices at 18 Dey street, New York, where it is showing a complete line of new and second-hand tools and machines of this character. The Frevert Machinery Co. also manufactures a line of newly-designed hand-

power traveling cranes, trolleys, hoists and overhead tracks which combine many valuable improvements. Mr. H. F. Frevert, who is connected with the company, has had a wide experience in the machine-tool business.

The Trap Rock Quarries.

Buyers of rock for construction purposes should not fail to become acquainted with the product of the Trap Rock quarries. This rock has been largely used, especially in concrete construction, where strictly fireproof work is required. It was used in building the famous speedway at Washington, D. C., and its quarriers state that the bureau of chemistry, United States Geological Survey, reports the rock's coefficient of wear is over 25 per cent., which is far above the average. The Trap Rock quarries are operated by the Pope Stone Co., offices at 702 Law Building, Baltimore, Md. This company makes Baltimore & Ohio deliveries.

Electrical Work Progressing.

Electrical work in Norfolk, Va., is on the increase, and among those who are engaged in meeting the requirements of this industry are Messrs. Hitt & Brown, electrical construction and supply dealers, 33 Bank street, who recently added to their business a complete electroplating establishment. Their contracting work is not confined to local business, but they have recently installed plants in steamships, factories and large buildings in Hartford and Franklin. Specimens of electrical equipment which this company has installed may be seen in the Board of Trade Building, Merrimac Apartment-house and the Hotel Loraine.

More Orders for Lima.

The Lima Locomotive & Machine Co. has received orders during the past week for locomotives from the following: Owl Bayou Cypress Co., Louisiana, one 15-ton Shay; Kirby Lumber Co., Texas, two 37-ton Shays; Beaumont & Northern Railroad, Texas, one 28-ton Shay; Lackawanna Lumber Co., Pennsylvania, one 65-ton Shay; Standard Lumber Co., Louisiana, one 20-ton Shay; Port Susan Logging Co., Oregon, one 37-ton Shay; Oregon Timber Co., Oregon, one 37-ton Shay, and Kilpatrick Bros. & Collins, Nebraska, one 45-ton Shay. This latter is the third order received within a very short time from this firm for a Shay locomotive.

Niagara Machine Tool Works.

At the annual meeting of the stockholders of the Niagara Machine and Tool Works, Jefferson, Superior and Randall streets, Buffalo, N. Y., on the 7th instant, the following officers were elected: George A. Lautz, president; George R. Munschauer, treasurer, and Francis Looney, secretary. In addition to the officers, Messrs. Otto J. Lautz, Charles Hughson and George A. Austin constitute the board of directors. The business is reported in a prosperous condition, employing about 250 operatives exclusively in the manufacture of presses, shears, tinners' tools and other machinery for working sheet metals.

Prices of Bostrom Levels.

There is a steadily-increasing demand for the Bostrom improved farm and builders' levels, and the manufacturer has been busily engaged recently in meeting this need of purchasers of improved engineering instruments. It is of timely interest to refer to a change in prices which the manufacturer has found it necessary to make on account of the increased cost of material and labor. The increase is from \$20 to \$25, and it is claimed that at this figure the Bostrom instrument is yet equal to other types at much more than that sum. The Bostrom-Brady Manufacturing Co. of Atlanta, Ga., manufactures the level mentioned.

Southern Offices for Pneumatic Tools.

The Chicago (Ill.) Pneumatic Tool Co. has closed its Norfolk office and will open an office in Richmond, Va. Its office at 602 Empire Building, Pittsburgh, Pa., will be closed April 1 and moved to 10 and 12 Wood street, where a store building has been secured for the purpose of making a general display of air compressors, tools, etc., a large stock of which will be carried as soon as the factories are in position to furnish same. A repair department will also be maintained there for the benefit of customers in the Pittsburgh district. The office at Seattle has been closed, and a new office opened at No. 84 6th street, north, Portland, Ore. "Business entirely satisfactory both at home and abroad, and all factories working double time," is the report from the Chicago Pneumatic Tool Co.

The Atlanta Utility Works.

Mr. S. R. Jacobs has become associated with the Atlanta Utility Works of East Point, Ga., as secretary and treasurer. He has been with the Continental Gin Co.

for several years and is well known to the oil-mill trade east of the Mississippi. The Atlanta Utility Works has more than doubled the size and capacity of its shops to meet the ever-increasing demand for seed cleaners, separating machinery, electro-magnets, Davis pump governors (has acquired exclusive right to manufacture and sell), and the Schuessler valve, for regulating the speed of pressure on presses and reducing cost per ton press cloth. The company's increased facilities with latest-improved machinery enables it to produce the very highest grade of special machinery at the lowest cost, and it says it has accordingly reduced prices with a view of allowing the mills to share these benefits.

Large Pipe-Covering Contract.

The H. W. Johns-Manville Company of New York, through its Chicago branch, has completed a large contract for the installation of "Fire Felt" pipe and boiler covering in the new plant of Sears, Roebuck & Co. of Chicago, involving an expenditure of several thousand dollars. In "Fire Felt" the Johns-Manville Company says it has reached the highest degree of efficiency in pipe covering. This covering is absolutely fireproof, elastic, light in weight and unaffected by expansion or contraction of pipes. This is but one of many large contracts that the company has recently executed, all of which bears testimony to the fact that the largest and most exacting firms have found it to their advantage to place work of this kind under the supervision of experts. In addition to being an extensive manufacturer of asbestos coverings, packings and roofing specialties, the H. W. Johns-Manville Company is one of the largest manufacturers of electrical supplies. Branches in all large cities.

A Record in Steam Turbines.

During January the Westinghouse Machine Co., East Pittsburgh, Pa., entered orders for 22 steam turbines aggregating 56,500 brake horsepower in rated capacity, or an average of over 2500 brake horsepower per turbine. Some of the largest orders were received from the United Electric Light & Power Co., New York, 15,000 kilowatts; New York, New Haven & Hartford Railroad, New York, 11,250 kilowatts; Louisville (Ky.) Lighting Co., 3000 kilowatts; Oliver Iron & Steel Co., Pittsburgh, 1000 kilowatts; West Virginia Pulp & Paper Co., New York, 1200 kilowatts, and Washington, Alexandria & Mount Vernon Railway, 1000 kilowatts. The largest machines go to the United Electric Light & Power Co., New York, N. Y., and will be 7500 kilowatts, or 11,000 brake horsepower rated capacity. Two of these units have already been sold to that company, which is affiliated with the New York Edison interests. A 3000-kilowatt turbo-unit goes to Louisville, and three 4500 brake horsepower units to the New York, New Haven & Hartford Railroad. The West Virginia Pulp & Paper Co. already has two 1000-kilowatt units in service, and the recent order has resulted from the satisfaction given by the first installation.

As to Ardmore, I. T.

Indian Territory is steadily growing in importance as a progressive section of the country, and its industrial resources are being taken advantage of by its own people and settlers who are making it their home. Among the Indian Territory cities coming into prominence is Ardmore, located on one of the highest points of land between Kansas City and Galveston, on the Gulf, Colorado & Santa Fe Railway. Ardmore has 12,000 inhabitants, and the Twenty-five Thousand Club is working vigorously to promote general developments. The city is surrounded by lands available for growing cotton, grain, fruits and general agricultural products, and for stock-raising. It is also well located for manufacturing industries, which may obtain raw materials at minimum prices. Coal, asphalt, petroleum and other minerals are found in the Ardmore section, and capitalists are becoming interested in the possibilities. Such facilities as good water supply, educational advantages and healthful conditions also exist in the Ardmore country. The Twenty-five Thousand Club assists in locating manufacturing enterprises of genuine worth, and Mr. W. P. Poland, offices in the First National Bank, is chairman of the committee on industries, and will furnish detailed information to inquirers.

The Besser Company's Offerings.

In view of the great interest being shown at present in the manufacture and use of hollow-concrete building blocks, tiles, cement brick and other cement products, it is well to be informed regarding the offerings of the Besser Manufacturing Co. of Alpena, Mich. This company manufactures the Bureka con-

crete building block and tile machine, as well as cement brick, building blocks, tile and all cement products. Its machines and products are generally used and become in greater demand as buyers become better acquainted with their merits. In referring to its recent operations the company says: "Two of the last additions to our line are our block and brick machines, which are made of aluminum. This is the ideal metal for this purpose, as it is very strong and light, and the concrete will not stick to same. Our portable aluminum block machine makes blocks 20 inches long and 8, 10 and 12 inches wide, with any design of face. Our latest portable brick machine is entirely automatic and does away with dividing plates, and is simply a wonder for simplicity, rapidity and perfection of work. Every brick is perfect; equal to pressed brick. With this machine the bricks are made either on wooden pallets or on the ground. We are having a big demand for our round sewer-tile molds. These are in a class by themselves, as with them we furnish our automatic expanding and contracting core."

An Improved Corner Bead.

Improved materials and supplies used for building-construction purposes are steadily being introduced, and progressive contractors are taking advantage of those which have merit, while architects are giving them attention in their plans and specifications. One of the latest devices in this class of manufactures is the Universal steel corner bead for reinforcement and protection of plastered corners and angles. The manufacturer of this improved bead thus summarizes its features: "Adds intrinsic value to the building; preserves and improves the beauty of the decorations; saves in repairs many times its cost to the owner; rigid and straight; absolutely rustproof; forms a perfect alignment and builds an indestructible corner; attached to the wall by means of an adjustable clip; will fit any thickness of grounds; forms a perfect key, locking and binding the plaster and steel together; prepares the corner for the plasterer, saving time and expense; easily and quickly spliced to any desired length; readily fitted to ovals and arches; meets all conditions that may exist in a building; furnished in strips of any desired length up to 10 feet; specified and used by the most exacting architects, contractors and builders." The Rogers-Shear Company of Warren, Pa., is the manufacturer of the Universal bead, and issues an illustrated descriptive booklet. It will send copies of this publication and a sample of the bead to any inquirer.

Wall Plaster and Retarder.

The base of all hard wall plasters is calcined plaster or plaster of paris. Some manufacturers use hydrated lime, low-grade cement and ground clay with calcined plaster in varying proportions, but other manufacturers claim no hard wall plaster can be made successfully without the use of calcined plaster. When calcined plaster is used a retarder must be employed to hold back the "set" of the calcined until the mortar can be worked and spread on the wall, and the development of the retarder business has been slow and tedious on account of the great care necessary to secure a retarder that will not injure the set and crystallization of the calcined. The uniformity of strength in retarder is absolutely necessary, as unless this can be depended upon the "set" of the mortar will be so variable that the mortar will work unevenly and cause lath "buckles" and endless trouble and annoyance. Wood-fiber plaster is largely manufactured in the South, and many new concerns are engaging in the manufacture of this excellent wall covering. Sand is not usually added to the wood-fiber plaster, and hair is dispensed with also, as the wood fiber makes the plaster work nicely and makes the wall elastic and hard. Those who desire to enter the wall-plaster business will find it advisable to correspond with the Ohio Retarder Co. of Port Clinton, Ohio, for formulas for the manufacture of all grades of hard wall plaster and for information concerning machinery for its manufacture. This information will be valuable for the reason that it is the direct result of many years' experience in the plaster business.

Engine Accidents and Their Prevention.

Operators of engines will be interested in the following statement: "The manufacturer whose power is furnished by a steam engine never knows when that agent of production will become an instrument of destruction and put his entire plant out of commission for weeks or months, perhaps killing or maiming valued employees, possibly taking his own life, for the racing engine and the bursting flywheel are no respecters of persons, and not infrequently spare the engineer and other attendants only to kill somebody in a distant

part of the works or even on the street blocks away. Flywheel insurance, however, does not prevent accident. There is a way to prevent engine accidents, a way that forestalls the destruction of life and property and profits that no form of insurance can restore. The method referred to is an electrical device known as the Monarch engine-stop and speed-limit system. It is applied directly to the throttle of the engine without breaking connections, shutting down or otherwise interrupting business. It is actuated automatically by the engine itself on the instant that a predetermined limit of safety is exceeded, preventing that overspreading or "racing" which almost invariably results in a bursting flywheel. It may also be operated from any part of the shop or works by means of push switches in case of accident to men or machinery, and this feature alone has not only averted serious injury or death to hundreds of workmen, but has saved many thousands of dollars in costly machinery as well." The foregoing statement comes from the manufacturer of the system referred to, the Consolidated Engine-Stop Co., 100 Broadway, New York. This company claims that, with hundreds of installations in all parts of the country, it has yet to hear of a single case in which the system has failed to do all that is claimed for it, and supports this claim by the testimony of hundreds of customers, many of whom have had occasion to test the apparatus in emergencies that threatened both life and property. The company will be glad to send its new catalogue describing the system in detail—"The Story of the Man and the Ladder," "What Justice Douglas Said" (the last being an account of an employer's liability action in the Supreme Court of Rhode Island, in which a verdict was found for the defendant because of the Monarch system and its prompt action when the push switch was pressed, saving a workman from serious injury in a machine), and other interesting and informative literature.

TRADE LITERATURE.

A New Blower Pamphlet.

Another pamphlet has been presented to the public by the New York Blower Co., Twenty-fifth Place and Stewart avenue, Chicago. It is numbered 63, and shows the different styles of engines used for driving fans, either direct-connected or belted. The publication is full of information. It may be had by application to the New York Blower Co.'s office.

Triumph Electric Co.'s Bulletin.

Bulletin No. 281 on direct-connected engine-type generators has just been issued by the Triumph Electric Co. of Cincinnati, Ohio. It contains interesting data on this class of electric machinery and should strongly appeal to users of generators. The bulletin describes in a general way the Triumph Electric Co.'s engine-type generators, which are made in sizes from 25 kilowatts upward.

The "Southern" Saw.

A pamphlet descriptive of the products of the Southern Saw Works of Atlanta, Ga., which is being distributed by that company, contains illustrations of chisel-bit, solid-tooth and rift saws. The chisel-bit saw is manufactured in five sizes, thus meeting the requirements of large and small mills. In tempering its saws the Southern Saw Works employs modern methods and possesses good facilities, claiming that its saws will not crumble.

Cortright Metal Shingle Advocate.

Edition No. 3, volume 2, of the Cortright Metal Shingle Advocate, a pamphlet regularly published by the Cortright Metal Roofing Co. of Philadelphia and Chicago, has been issued. As the name of the pamphlet implies, it contains facts relating to Cortright metal shingles and advocates their use in building construction, presenting at the same time a number of testimonials bearing upon the superior qualities of Cortright metal shingles.

Wickes Bros.' Stock List.

The monthly stock list for March of Wickes Brothers, machinery manufacturers and dealers, 137-139 Liberty street, New York, is being distributed. Among different kinds of machinery listed are boilers, engines, dynamos, motors, contractors' material, condensers, pumps, feed-water heaters, fans, blowers, heating apparatus, iron and steel-working machinery, etc. Wickes Brothers maintain plants and offices at Jersey City, Boston, Philadelphia, Pittsburg and Saginaw.

Gas-Generating Plants.

Loomis-Pettibone gas-generating plants are attractively described by means of diagrams and colored plates in a new pamphlet that is

being issued by the Power & Mining Machinery Co., Milwaukee, Wis. This system gasifies bituminous coal, wood, charcoal, lignite, etc., and produces a gas that is particularly adapted to the operation of gas engines. The water gas made by this system can be used separately in various feeding works, such as forging, welding, tempering, etc. This pamphlet can be had upon application to the company.

Sullivan Machinery Co.'s Bulletin.

Bulletin 51C of February 15, 1906, one of a series issued from time to time by the Sullivan Machinery Co., Railway Exchange Building, Chicago, Ill., describing new developments in mining and quarrying machinery and especial instances where the machinery has been employed in novel capacities, is now being distributed. It contains interesting illustrations showing the use of the Sullivan plug drill, together with views of several types of air compressor. The principal Southern branch offices of the Sullivan Machinery Co. are located at Knoxville, Tenn., and St. Louis, Mo.

Cotton Chats.

Cotton Chats, a monthly publication issued by the Draper Company of Hopedale, Mass., has been distributed for February and contains the usual quantity of information relative to cotton-mill machinery. Reference is made to criticisms that have been advanced regarding the machinery manufactured by the Draper Company, with appropriate comment, and an invitation is extended for further criticism, as it is believed it will enable the company to better determine which of its machines are best capable of improvements and which particular machinery most needs improvement.

The Ridgepole.

The publication and circulation of periodicals by manufacturers and business men generally for the distribution of information concerning the merits of various products is very generally accepted as a good means of interesting the public in these products. A publication of this character is the Ridgepole, issued by Messrs. J. A. & W. Bird & Co. of Boston, Mass., who are distributing the March edition. The pamphlet contains data relative to Rex Flintkote Roofing, which is manufactured by J. A. & W. Bird & Co., together with testimonial letters concerning the merits of this material.

Hopkinsville, Ky., Is Growing.

In Kentucky one of the thriving cities is Hopkinsville, located in a section said to be rich in resources for the manufacturer, agriculturist and the homemaker. Hopkinsville's natural advantages are being made known by the city's progressive business men, who are working to advance the interests of their part of the South, and find that those who locate are seldom induced to go elsewhere. In a two-page leaflet which the Hopkinsville Commercial Club is distributing the facts about Hopkinsville are tersely and well told for the benefit of the busy man. Write the club for a copy of the leaflet.

Link Motion—All About It.

"Link Motions, Valves and Valve Setting," by Fred H. Colvin, is a valuable brochure which is being sent to all master mechanics and superintendents of motive power of the various railroad companies. The publication gives a concise history of the origin of locomotive valve motion and its development to the present time, together with interesting facts regarding the practices prevailing in this direction today. It includes a number of diagrams elucidating the text, and is so written that "he who runs can read" to good advantage. Messrs. H. B. Underwood & Co., portable tools, Philadelphia, Pa., are distributing the brochure.

Box Electric Drills.

The drills mentioned in the above title are making a name for themselves in the field of activity to which their designer has assigned them. They are manufactured by the H. D. Crippen Manufacturing Co. of 25 Broad street, New York, which has issued an illustrated pamphlet describing in detail the devices and their accomplishments. The data includes references to the Box Electric Rock Drills working under various conditions, so that prospective purchasers of this class of equipment can readily appreciate the advantages in this particular make and to definitely determine what each size and style will accomplish. There are three models described, and no operator in that branch of activity where drills are required should fail to be informed regarding the characteristics of the design in reference. Besides these drills the H. D. Crippen Manufacturing Co. offers electric hoists, electric pumps, gasoline engines, water-wheels and electric

line and station equipment. In sending for the new pamphlet ask for Catalogue No. 10.

Electric Motor Drives.

In considering the application of electric motor drives many power users defer the use of electricity because of the trouble which seems inevitable in changing over to electric motor drive. Thus many good old machine tools are left to continue on an old plane of inefficiency. Electric motor drive would afford greatly increased output and improved product. The electrical equipment produced by the Northern Electrical Manufacturing Co., Madison, Wis., U. S. A., is characterized by ease of application and convenience of arrangement, location and operation. For certain classes of work a special type of Variable Speed Motor, described in Bulletin 15, has been developed. Northern Multi-Speed Motors, as they are termed, are especially designed for application to engine lathes. The company will send bulletins of further information to inquirers.

Regarding Washington, N. C.

The present development and future possibilities of Washington, N. C., are subjects that should interest all who contemplate becoming connected with the advantages of the Washington section. Washington is one of the smaller cities of its State, and is rapidly growing in importance as people become better acquainted with the resources it has at its doors. Its location, soil and climate all tend to invite settlers and manufacturers, and its progressive citizens are actively working to make known to the world these various advantages. In an illustrated pamphlet which has recently been prepared there is presented data which will enable any reader to readily comprehend the natural resources at hand and to realize the possibilities in manufacturing in and around Washington, where raw materials can be obtained at minimum prices and where labor does not seek exorbitant remuneration for its services. The pamphlet was compiled and illustrated by H. L. Grant, industrial agent of the Norfolk & Southern Railroad, and is being distributed by the Chamber of Commerce of Washington, N. C., by whom requests for a copy are invited.

Regarding Hydrated Portland Lime.

The Chickamauga Cement Co. of Chattanooga, Tenn., has recently published an interesting booklet on Hydrated Portland Lime which contains some very interesting information, especially for people in the hollow-block and cement-construction business. The company's hydrated Portland lime is made from an over-limed Portland-cement stone, which it states is very similar in composition to the celebrated hydraulic lime of Telf. France, only it is decidedly more like Portland cement in its composition. Because of its strong cementing character hydrated Portland lime makes a strongly hydraulic mortar. Mixed one to three with sand it will give a tensile test, air and water seven days, over 60 pounds to the square inch. It makes an ideal mortar for mill construction, and because of its strongly hydraulic character and close resemblance to Portland cement is a splendid material for mixing with Portland cement in making concrete stone and waterproofing building blocks. Hydrated Portland lime is comparatively inexpensive, and parties contemplating masonry or brick-laying or any kind of concrete work will find helpful data in the booklet mentioned.

New Gyrotory Crusher Catalogue.

The Austin Manufacturing Co., Manhattan Building, Chicago, Ill., is distributing a revised edition of its gyrotory crusher catalogue that should be interesting to all who contemplate the use of crushed stone or rock for whatever purpose. This catalogue contains illustrations and reading data concerning the automatically lubricated gyrotory crusher and its several parts, which are manufactured by the Austin Manufacturing Co., together with a number of testimonials bearing upon the merits of the machine. The company claims that its product is protected by more than 200 patents, embracing every country of importance, and buyers are assured of the determination of the manufacturer not to lessen the value of any of its machines by cheapening it in construction or material. The Austin Manufacturing Co. is the maker of Austin gyrotory crushers, elevators, screens, hoists, cars, etc., and designs and builds complete rock-crushing plants. Branch offices are maintained in the Park Row Building, New York; Prudential Building, Atlanta, Ga.; Pioneer Press Building, St. Paul, Minn.; W. H. C. Mussen & Co., Canadian agents, Montreal.

Artistic Architectural Publication.

Among the recent publications of an artistic nature which the Manufacturers' Record

has received, that from Simonson & Pietsch, a well-known architectural firm of Baltimore, is of such excellence as to make it a work of art. Bound in Morocco leather with gilt lettering, with richly-executed photographs of the various buildings they have designed, it is gotten up in a style that reflects great credit on the firm. Glancing through its pages one is struck with the great variety of buildings presented, including newspaper plants, banks, office buildings, factories, power-houses, warehouses, schools, markets, store buildings, garage and amusement parks. Messrs. Simonson & Pietsch entered into partnership shortly after the great fire, and by strict devotion to their work, with the welfare of their clients continually in mind, with an eye single to the attainment in the finished product the best obtainable for the money invested, and by exercising the same painstaking care for the small as the large client, they have won for themselves an enviable place in their profession. Mr. Otto Simonson, senior member of the firm, studied his profession in Germany, and for 20 years was in the office of the supervising architect of the United States Treasury Department, holding the important positions of senior draughtsman and later superintendent of contractors. Mr. Theodore W. Pietsch was educated at the Massachusetts Institute of Technology, and afterward graduated from the foremost architectural school of the world—Ecole des Beaux Arts of Paris—in 1897. He also received a diploma from the French government, and the following year was honorably mentioned in the Paris Salon. Returning to the United States, he was for two years in the office of D. H. Burnham of Chicago, and later with John Galem Howard of New York. In 1902 he was appointed chief designer in the office of the supervising architect at Washington.

Cyclone Drill Co.'s Catalogue.

In the development of mineral deposits for coal or ore, an important consideration is the preliminary prospecting by which the exact depth, extent, thickness and value of the deposits are ascertained. This can be successfully done with a drill that affords the means of knowing just what is being drilled at all times. In water-well drilling also it is highly important that an efficient drill be used. Interesting data concerning work of this character and machinery for its successful execution is furnished in a catalogue issued by the Cyclone Drill Co. of Orville, Ohio. This book contains, besides many illustrations of drilling machines and their parts, a very comprehensive description of them, together with some mention of obstacles usually encountered in drilling work and suggestions for overcoming them. In mineral testing and well drilling the method of adopting a reciprocating motion of the bit is said to be the only practical way of sinking a hole into rock rapidly. Bits for this purpose, which are manufactured by the company referred to, are made up of a fine product of crucible steel prepared under a special formula. Illustrations in the catalogue give a fair representation of some of the machines constructed for transportation, and features for which the company claims superiority are the tilting bar for hollow-rod drilling and cable tools, which are important parts in the construction of drilling machines. The machines are fitted with folding derricks, except a few of the larger sizes, which can be lowered and moved from place to place or can be left in positions as desired. The wagon on which the machine is constructed is built of iron and steel, the wheels having from four to eight-inch tires and fitted with thimble skids. The Cyclone Drill Co. has purchased the plant, etc., of the Preslar-Crawley Manufacturing Co. of Cincinnati, and in the future will manufacture a complete line of core drills and a combination machine handling both core and churn drills, making it possible to drill any and all kinds of material with the same machine and take out cores of the hard or ore-bearing strata. The Preslar-Crawley plant has already been removed to Orville, and buildings are under construction to meet the requirements of an increasing trade.

Rust—How to Prevent It.

Last autumn, there was issued a booklet entitled "Rust: How to Prevent It," which briefly told how rust is formed, how rust produces rust, and how, if the wrong paint is used, corrosion may originate and develop under the paint itself. In this connection, and supplementing in a measure the data presented in that booklet, another booklet has been issued entitled "The Best Way to Prevent Rust," which makes reference to the method by which rust is produced, and showing that if any moisture or rust has been left on metal after the application of a defective paint, rust must develop. The paint skin will be forced outward—away from the metal—by the increasing volume of hydrogen

and rust beneath. In some instances the protection of iron and steel becomes so difficult that finally, after many unsuccessful attempts to avert corrosion, metal construction has to be abandoned. Illustrating the correctness of this statement, the booklet refers to the Victoria tubular bridge over the St. Lawrence river. The structure consisted of 24 spans—a total length of about one and three-fourths miles—and contained 9000 tons of iron in the tubes. The bridge was under the constant care of engineers and painters, but after less than 40 years of attention the task of saving it became hopeless and it had to be abandoned. There are other instances cited which show the uselessness of trying to protect metal with a paint that does not protect. It is stated, however, that rust can be prevented if the proper care is taken to select the right kind of paint. One formula will not meet every requirement, and the intelligent paint manufacturer endeavors to learn the conditions which the paint must meet. Special paints for rust in all climates are manufactured by the Detroit (Mich.) Graphite Manufacturing Co. The amorphous graphite used in the company's paint manufacture is said to be one of the few pigments that does not destroy the protective qualities of linseed oil, and the paint is capable of absorbing rust or moisture left by chance on the metal during painting. The Detroit paints are used for painting steel in buildings and bridges, corrugated iron, metal roofs, stacks, standpipes, steel cars, penstocks, grain elevators, etc. The two booklets referred to were published by the Detroit Graphite Manufacturing Co.

Accounting in the Cotton Business.

"The Burroughs System for the Cotton Business, System for Cotton Brokers, Cotton Mills and Cottonseed-Oil Mills, with Many Illustrations from Actual Forms" (by H. E. K. Burg, head of the Business Systems' Department, Burroughs Adding Machine Co.), is the title of a publication issued by the Burroughs Adding Machine Co., Detroit, Mich. Manufacturers who have replaced the careless methods of a bygone day with modern system do not need to be told that the new way is necessary if competition is to be met without sacrificing profits. All have not learned, however, that there is a way to increase the profit of the best system, that way being stated to be the Burroughs way. In presenting concise information tending to indicate the proof of this claim as to the Burroughs way there has been issued the publication mentioned, which contains valuable data for the consideration of every progressive manufacturer and business man, especially those connected with the cotton business—cotton brokers, cotton mills, cottonseed-oil mills and others. This publication aims to tell how to reduce the cost of operating a present system by increasing its efficiency; how to simplify the system you may have with consequent saving of cost; how to place your business on such a footing that you may be master of every detail and able to administer each day's work conscious that you have all the facts and figures of your business by which to guide your judgments. In outlining the ways and means for effecting these desirable features in any business enterprise, reference is made to methods to lighten labor and make clerks more valuable, to do away with human machines in the office, to list figures as fast as six men can write them and add in no time at all, every operation of record in black and white, how to enable small concerns to compete, how the little enterprise can expand, etc. Scarcely any business in existence but that can find "pointers" of importance in the blank forms illustrated and the accompanying explanatory text in this publication—the Burroughs System for the Cotton Business. It may be pertinently added that the main factor in bringing about such highly desirable results as are outlined in the book's pages is claimed to be the Burroughs Adding and Listing Machine. The possibilities of this very ingenious mechanical device for performing mathematical problems have been tested, and more than 25,000 banks and business houses are using the Burroughs as a mechanical aid for their accountants and abolishing the mere drudgery of handling figures. The publication has been prepared for the purpose of showing clearly the great advantages obtainable by using the Burroughs machine in all branches of the cotton business. A number of Southern cotton mills, oil mills and others connected with the handling of the world's great staple in various forms are now profiting by the help afforded in the machine's use. This Burroughs publication is offered at a nominal sum, and a special offer is made to send a copy of it free to any inquirer who will make use of the coupon attached to the Burroughs Adding Machine Co.'s advertisement in this issue of the Manufacturers' Record.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters. Items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD.

Baltimore, Md., March 21.

The Baltimore stock market was dull during the past week excepting toward the close of the period, when there was a spurt of activity in United Railways incomes. Otherwise the dealings were without feature.

In the trading United Railways common sold at 18½ to 18¾; the trust certificates at 18½ to 18¾; the income bonds from 74½ to 75½; the trust certificates from 73¼ to 74½; the 4s from 92¼ to 92½. Consolidated Gas was dealt in from 86 to 84; the 6s from 107 to 106¾; the 5s at 112. Seaboard common changed hands at 30; the new common at 31; the new second preferred at 62; Seaboard 4s from 90½ to 90¾; the 10-year 5s at 103; Cotton Duck 5s at 87¼; Consolidated Cotton Duck common at 12 to 12½; G. B. S. incomes 32 to 33, and the 1sts from 61 to 60¾.

Bank stocks sold as follows: Mechanics', 26½ to 26; Howard, 12; Union, 120; Citizens', 28¼.

Trust and other company stocks were traded in thus: Fidelity & Deposit, 140; Maryland Trust common, 121.

Other securities were dealt in as follows: Northern Central Railway stock, 103¼ to 103¾; do. 5s, A, 119; Atlantic Coast Line Consolidated 4s, 99½ to 99¾; do. Connecticut 4s, certificates, 5-20s, 94; do. new 4s, certificates, 93¼; Atlantic Coast Line Railroad stock, 100½; do. Connecticut, 425; do. do. 4s, certificates, 93¾; City & Suburban 5s, Baltimore, 112¾; Houston Oil common, 12 to 11¼; do. preferred, 48¾ to 48¼; Florida Southern 4s, 98½; North Baltimore 5s, 120; Macon Railway & Light 5s, 100½; Norfolk Railway & Light 5s, 100 to 100¼; Virginia Midland 2ds, 107½; Western Maryland 4s, 87¾ to 87¼; Alabama Consolidated Coal & Iron 5s, 94; Atlanta & Charlotte 1sts, 103; Georgia, Carolina & Northern 5s, 111; Baltimore Refrigerating & Heating 1st 5s, 75; Consolidation Coal, 94; Baltimore Traction 5s, 116¾; Baltimore City 5s, 1916, 114; Amalgamated Copper, 104¼; Maryland Telephone 5s, 97; Georgia Southern & Florida 5s, 113½; Baltimore, Sparrows Point & Chesapeake 4½s, 97¼; Baltimore City 3½s, 1930, 105; Georgia & Alabama Consolidated 5s, 110½.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended March 21, 1906.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte.....	100	170	
Atlantic Coast Line.....	100	155½	
Atlantic Coast Line of Conn.....	100	420	430
Georgia Southern & Florida.....	100	35	37½
Georgia Sou. & Fla. 1st Pref.....	100		
Georgia Sou. & Fla. 2d Pref.....	100	75	
Maryland & Pennsylvania.....	100	28	30
Seaboard Railway Common.....	100	30	32½
Seaboard Railway Preferred.....	100	30½	31½
Seaboard Company Common.....	100	55½	
Southern Railway (V. T.).....	100	40¼	41
United Railways & Elec. Co.....	50	18	18½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank.....	10	28	28½
Commercial & Far. Nat. Bank.....	100	130	140
Com. & Far. Nat. Bk. Blue Cfs.....	100	119	150
Drovers & Mech. Nat. Bank.....	100	240	
Farmers & Mer. Nat. Bank.....	40	54	55
First National Bank.....	100	145	150
German Bank.....	100	108	
Maryland National Bank.....	30	24	
Merchants' National Bank.....	100	180	185
National Bank of Baltimore.....	100	118	122
National Bank of Commerce.....	15	24½	
National Howard Bank.....	10	11½	12¼
National Marine Bank.....	30	39	
National Mechanics' Bank.....	10	26	30
National Union Bank of Md.....	100	118	120

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
Baltimore Trust & Guarantee.....	100	230	234
Fidelity & Deposit.....	50	138	142
International Trust.....	100	153	155
Maryland Trust.....	100	120½	121½

Mercantile Trust & Deposit.....	50	142	145
Union Trust.....	50	53½	55
U. S. Fidelity & Guaranty.....	100	139	143

Miscellaneous Stocks.	Par.	Bid.	Asked.
Alabama Coal & Iron.....	100		75
Ala. Coal & Iron Pref.....	100		94
Consolidated Gas.....	100	85	87
Consolidated Cotton Duck.....	50	12¼	13
Consolidated Cotton Duck Pfd.....	50	34	36
Consolidation Coal.....	100	90	96
G. B. & S. Brewing Co.....	100	8	9
George's Creek Coal.....	100		80

Railroad Bonds.	Par.	Bid.	Asked.
Albany & Northern 5s, 1946.....	100	93	95
Atlanta & Charlotte 1st 7s, 1907.....	100	103	104
Atlan. Const Line 1st Con. 4s, 1952.....	100	102½	109
Atlantic Coast Line 4s, Cfs., 1952.....	100	93	94
Atlantic Coast Line (Conn.) 4s.....	100	83	94
Birmingham & Western 5s.....	100	98	100½
Carolina Central 4s, 1949.....	100	97	97½
Charleston & West. Car. 5s, 1946.....	100	112¼	113½
Char. Col. & Aug. 1st 5s, 1910.....	100	117½	
Char. Col. & Aug. 2d 7s, 1910.....	100	119	
Coal & Coke Railway 5s.....	100	100½	
Coal & Iron Railway 5s, 1920.....	100	105	
Florida Southern 4s, 1940.....	100	97	99
Georgia & Alabama 5s, 1945.....	100	110½	111
Georgia Car. & North. 1st 5s, 1929.....	111	111¼	
Georgia South. & Fla. 1st 5s, 1945.....	113½	113¾	114
Maryland & Pennsylvania 4s, 1951.....	100		95
Petersburg, Class A 5s, 1926.....	113½		
Petersburg, Class B 6s, 1926.....	127		
Potomac Valley 1st 5s, 1941.....	115¾	116½	
Raleigh & Augusta 1st 6s, 1926.....	125½		
Richmond & Danville 1st 5s.....	112¾	113¼	
Seaboard Air Line 4s, 1950.....	90	90½	
Seaboard Air Line 5s, 10-year, 1911.....	103	103½	
Seaboard Air Line 5s, 5-year.....	98	99½	
Seaboard & Roanoke 6s, 1916.....	100		
Seaboard & Roanoke 5s, 1926.....	113		
Southern Railway Con. 5s, 1894.....	118	119	
Virginia Midland 2d 6s, 1911.....	107½	108	
Virginia Midland 4th 3-4-5s, 1921.....	109	110	
Virginia Midland 5th 5s, 1926.....	112	112½	
Western Maryland new 4s, 1952.....	87	87½	
W. Va. Central 1st 6s, 1911.....	107½	108½	
Wilmington & Wel. Gold 5s, 1885.....	118½	119	

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s, 1949.....	100½	107½	
Augusta Rwy. & Elec. 5s, 1940.....	100		106½
Baltimore City Passenger 5s, 1911.....	100½		
Baltimore Traction 1st 5s, 1929.....	117	118½	
Charleston City Railway 5s, 1923.....	105		
Charleston Con. Electric 5s, 1899.....	96	96½	
City & Suburban 5s (Balt.), 1922.....	112½	113¼	
City & Suburban 5s (Wash.), 1948.....	105½	106½	
Lake Roland Elev. 5s (Balt.), 1942.....	119		
Macon Rwy. & Lt. 1st Con. 5s, 1953.....	100	101	
Metropolitan 5s (Wash.), 1925.....	118¼	116	
Newport News & Old Pt. 5s, 1938.....	86	100	
Norfolk Railway & Light 5s.....	100½	100½	
North Baltimore 5s, 1942.....	119½	120	
United Railways 1st 4s, 1949.....	92½	92½	
United Railways Inc. 4s, 1949.....	74½	74½	

Miscellaneous Bonds.	Par.	Bid.	Asked.
Alabama Consol. Coal & Iron 5s.....	93½	94	
Consolidated Gas 6s, 1910.....	106½	107	
Consolidated Gas 5s, 1939.....	112	112½	
Consolidated Gas 4½s, Cfs.....	100	101	
Consolidation Coal 4½s.....	99	100½	
G. B. & S. Brewing 1st 3-4-5s.....	69½	61	
G. B. & S. Brewing 2d Income.....	31½	33	
Mt. V. & Woodly's Cot. Duck 5s.....	87½	87½	
Mt. V. & Woodly's Cot. Duck Inc.....	10		
United Elec. Light & Power 4½s.....	97½	99	

SOUTHERN COTTON-MILL STOCKS

Quotations Furnished by Hugh MacNe & Co., Wilmington, N. C., for Week Ending March 21, 1906.

Abbeville Cotton Mills (S. C.).....	96	99
Allen Mfg. Co. (S. C.).....	85	91
Anderson Cotton Mills (S. C.).....	104	106
Arkwright Mills (S. C.).....	120	123
Augusta Factory (Ga.).....	80	85
Avondale Mills (Ala.).....	98	
Belt Mills (S. C.).....	108	111
Bibb Mfg. Co. (Ga.).....	107	112
Brandon Mills (S. C.).....	107	111
Cabarrus Cotton Mills (S. C.).....	137	
Chadwick Mfg. Co. (N. C.) Pfd.....	102	
Chiquola Mfg. Co. (S. C.).....	90	91
Clifton Mfg. Co. (S. C.).....	123	128
Clifton Mfg. Co. (S. C.) Pfd.....	105	
Clinton Cotton Mills (S. C.).....	149	
Columbus Mfg. Co. (Ga.).....	98	
Courtenay Mfg. Co. (S. C.).....	100	103½
Dallas Mfg. Co. (Ala.).....	87	
Durham Mfg. Co. (S. C.).....	60	75
Eagle & Phenix Mills (Ga.).....	125	126
Easley Cotton Mills (S. C.).....	125	136
Enoree Mfg. Co. (S. C.).....	91	91
Enoree Mfg. Co. (S. C.) Pfd.....	99	102
Enterprise Mfg. Co. (Ga.).....	86	92
Exposition Cotton Mills (Ga.).....	290	
Gaffney Mfg. Co. (S. C.).....	85	92
Gainesville Cotton Mills (S. C.).....	50	
Granby Cot. Mills (S. C.) 1st Pfd.....	59	66
Greenville Mfg. Co. (S. C.).....	160	166
Greenwood Cotton Mills (S. C.).....	98	
Henrietta Mills (N. C.).....	110	116
King Mfg. Co. John P. (Ga.).....	97	103
Lancaster Cotton Mills (S. C.).....	103	
Lancaster Cot. Mills (S. C.) Pfd.....	96	
Langley Mfg. Co. (S. C.).....	92	96
Laurens Cotton Mills (S. C.).....	150	164
Limestone Mills (S. C.).....	100	
Lockhart Mills (S. C.).....	100	104
Lockhart Mills (S. C.) Pfd.....	97	103
Louis Mills (N. C.).....	94	
Louis Mills (N. C.) Pfd.....	102	
Marlboro Cotton Mills (S. C.).....	72½	80
Mayo Mills (N. C.).....	150	200
Mills Mfg. Co. (S. C.).....	105	
Mills Mfg. Co. (S. C.) Pfd.....	100	
Monaghan Mills (S. C.).....	99	102½
Monarch Cotton Mills (S. C.).....	88½	
Newberry Cotton Mills (S. C.).....	110	116
Norris Cotton Mills (S. C.).....	102	104
Odel Mfg. Co. (N. C.).....	85	91
Orangeburg Mfg. Co. (S. C.) 1st Pfd.....	79	97
Orr Cotton Mills (S. C.).....	105	
Pacolet Mfg. Co. (S. C.).....	172	176½
Pacolet Mfg. Co. (S. C.) Pfd.....	100	104
Pelzer Mfg. Co. (S. C.).....	168	176
Piedmont Mfg. Co. (S. C.).....	109	171
Poe Mfg. Co. F. W. (S. C.).....	121	133
Raleigh Cotton Mills (N. C.).....	99	100
Riohatchee Cot. Mills (S. C.) Pfd.....	51	62
Roanoke Mills (N. C.).....	128	
Saxon Mills (S. C.).....	100	103
Sibley Mfg. Co. (Ga.).....	64	68
Southern Cotton Mills (N. C.).....	80	
Spartan Mills (S. C.).....	139	146
Springfield Mills (S. C.).....	100	
Trion Mfg. Co. (Ga.).....	131	142
Tucapau Mills (S. C.).....	150	
Victor Mfg. Co. (S. C.).....	112	116

Warren Mfg. Co. (S. C.)	97	99
Warren Mfg. Co. (S. C.) Pfd.	105	105
Washington Mills (Va.)	18	26
Washington Mills (Va.) Pfd.	15	26
Whitney Mfg. Co. (S. C.)	119	135
Whitney Mfg. Co. (S. C.) Pfd.	119	135
Woodruff Cotton Mills (S. C.)	104	107

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending March 20.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	95	99
Aetna Cotton Mills (S. C.) Pfd.	70	70
Aiken Mfg. Co. (S. C.)	87	90
American Spinning Co. (S. C.)	108	108
Anderson Cotton Mills (S. C.)	101	101
Arden Mills (S. C.)	89	93
Arkwright Cotton Mills (S. C.)	120	120
Augusta Factory (Ga.)	89	85
Avondale Mills (Ala.)	125	125
Belton Mills (S. C.)	119	119
Bibb Mfg. Co. (Ga.)	100	100
Brandon Mills (S. C.)	107	110
Brogan Mills (S. C.)	77	82
Cabarrus Cotton Mills (N. C.)	137	137
Chadwick Mfg. Co. (N. C.) Pfd.	103	103
Chillicothe Mfg. Co. (S. C.)	120	120
Clifton Mfg. Co. (S. C.)	125	130
Clifton Mfg. Co. (S. C.) Pfd.	103	103
Clinton Cotton Mills (S. C.)	125	140
Columbus Mfg. Co. (Ga.)	92	95
Courtenay Mfg. Co. (S. C.)	100	103
Dallas Mfg. Co. (S. C.)	89	95
Darlington Mfg. Co. (S. C.)	62	62
D. E. Converse Co. (S. C.)	115	115
Eagle & Phenix Mills (Ga.)	120	120
Easley Cotton Mills (S. C.)	120	125
Enoree Mfg. Co. (S. C.)	85	90
Enoree Mfg. Co. (S. C.) Pfd.	100	103
Enterprise Mfg. Co. (Ga.)	70	85
Exposition Cotton Mills (Ga.)	174	200
Gaineyville Cotton Mills (Ga.)	27	93
Glenwood Cotton Mills (S. C.)	99	99
Gluck Mills (S. C.)	97	97
Granby Cotton Mills (S. C.) 1st Pfd.	90	90
Graniteville Mfg. Co. (S. C.)	157	157
Greenwood Cotton Mills (S. C.)	94	100
Grendel Mills (S. C.)	108	108
Hartsville Cotton Mill (S. C.)	88	88
Henrietta Mills (N. C.)	200	200
Inman Mills (S. C.)	80	87
King Mfg. Co., J. P. (Ga.)	97	103
Lancaster Cotton Mills (S. C.)	95	99
Lancaster Cotton Mills (S. C.) Pfd.	95	96
Langley Mfg. Co. (S. C.)	92	92
Laurens Mills (S. C.)	101	101
Limestone Mills (S. C.)	101	101
Lockhart Mills (S. C.)	99	102
Lockhart Mills (S. C.) Pfd.	101	101
Loray Cotton Mills (N. C.) Pfd.	89	89
Louise Mills (N. C.)	94	94
Louise Mills (N. C.) Pfd.	102	102
Marlboro Cotton Mills (S. C.)	67	75
Mayo Mills (N. C.)	150	200
Mills Mfg. Co. (S. C.)	99	101
Mills Mfg. Co. (S. C.) Pfd.	99	101
Molloy Mfg. Co. (S. C.)	99	97
Monaghan Mills (S. C.)	99	104
Monarch Cotton Mills (S. C.)	89	87
Newberry Cotton Mills (S. C.)	115	115
Ninety-Six Cotton Mills (S. C.)	90	90
Norris Cotton Mills (S. C.)	100	103
Odell Mfg. Co. (N. C.)	90	90
Orangeburg Mfg. Co. (S. C.) Pfd.	103	103
Ore Cotton Mills (S. C.)	103	106
Pacelot Mfg. Co. (S. C.)	173	175
Pacelot Mfg. Co. (S. C.) Pfd.	102	104
Pelzer Mfg. Co. (S. C.)	170	175
Piedmont Mfg. Co. (S. C.)	165	175
Poe Mfg. Co., F. W. (S. C.)	125	130
Raleigh Cotton Mills (N. C.)	100	100
Richland Cot. Mills (S. C.) Pfd.	50	50
Roxboro Mills (N. C.)	118	118
Saxon Mills (S. C.)	102	102
Staley Mfg. Co. (Ga.)	62	63
Southern Cotton Mills (N. C.)	58	80
Spartan Mills (S. C.)	140	140
Springstein Mills (S. C.)	100	100
Trion Mfg. Co. (Ga.)	132	140
Tucupau Mills (S. C.)	155	155
Victor Mfg. Co. (S. C.)	107	113
Warren Mfg. Co. (S. C.)	99	105
Warren Mfg. Co. (S. C.) Pfd.	107	107
Washington Mills (Va.)	17	22
Washington Mills (Va.) Pfd.	45	96
Whitney Mfg. Co. (S. C.)	119	125
Whitney Mfg. Co. (S. C.) Pfd.	119	125
Woodruff Cotton Mills (S. C.)	104	107

UNITED STATES STEEL.

Largest Gross Earnings in the History of the Corporation.

The annual report of the United States Steel Corporation for the year 1905 displays the largest gross earnings of the company since it was formed five years ago, and the largest net earnings since 1902. The gain in gross as compared with 1904 is very nearly \$141,000,000, the total earnings for 1905 being \$585,331,736, and the gain in net earnings is over \$46,500,000, the total net for the year being \$119,787,658. The profit and loss surplus last year was \$17,065,815, an increase of over \$12,000,000 as compared with 1904. The total surplus of the corporation, which amounts to \$84,738,450, is larger than at any other time except in 1903, when it ranged from \$90,000,000 to nearly \$100,000,000. After the payment of the preferred dividends last year there was left out of the year's income \$43,365,815, the dividends having amounted to over \$25,000,000, and out of the balance remaining there was appropriated \$26,300,000 for construction, capital obligations, additional property and contemplated appropriations and expenditures. This left the surplus for the year as above noted. The magnitude of the company's business is indicated by the fact that the unfilled orders on hand amount to 7,605,086 tons, as compared with 4,696,203 tons in 1904.

Mr. Elbert H. Gray, chairman of the board, and Mr. William E. Corey, president, in their report to the company note the continuation during 1905 of the improvement in the iron and steel business which became evident in the latter part of 1904. The production of pig-iron, steel ingots and finished product exceeded the production of any previous year, but while the output was greater, the average prices received for most of the tonnage were somewhat less than in 1902, which was the first complete year of the company's existence. In the export trade satisfactory results have been obtained, and the prices received were materially in excess of previous receipts, being more close to domestic prices.

Useful to Investors.

Messrs. Stone & Webster, 84 State street, Boston, have issued their "Electric Railway and Lighting Properties" manual for 1906, giving brief descriptions of the various properties under their management, together with summaries of the capitalization thereof, particulars regarding the securities, and statements of earnings for the year 1905. The book covers 27 properties in different parts of the United States, East, West, North and South, and from the Atlantic to the Pacific oceans. It is handsomely bound in black morocco with gilt lettering.

Bank Reports.

The Jesup Banking Co. of Jesup, Ga., reports at close of business March 13, 1906, loans and discounts, \$104,956; due from banks, \$24,155; cash, \$3752; capital stock, \$25,000; surplus, \$10,000; undivided profits, \$6570; individual deposits, \$56,448; time deposits, \$29,677; total resources, \$140,195. C. W. Dean is president; L. Carter, vice-president, and D. M. Parker, cashier.

New Corporations.

A new bank is reported being organized at Camden, Ala.

The Cummings Bank has begun business at Alvin, Texas, with Thomas Wilburn as cashier.

A bank is reported being organized at Williston, Fla., by L. O. Benton, a banker of Georgia, and others.

The Farmers' Bank of Shepherdstown at Shepherdstown, W. Va., has filed its charter; capital \$25,000.

The Bank of Dover at Dover, N. C., has been chartered with \$25,000 capital by W. R. Blandford and others.

The Farmers' Bank of Seaboard at Seaboard, N. C., has been incorporated with \$5000 capital by J. G. L. Crocker, J. H. Ramsey and R. H. Gay.

The Union Trust & Guarantee Co. of Charlotte, N. C., has been chartered with \$100,000 capital. The incorporators are T. W. Wade, C. D. Bennett and E. A. Smith.

The Citizens' State Bank of Burlington, O. T., has been granted permission to begin business with \$10,000 capital. H. Stout is president, and Luther Martin, cashier.

The Wellington State Bank of Wellington, Texas, capital \$25,000, has been incorporated by R. L. Ellison, Fort Worth; K. C. Wells, Wellington, and C. A. Gray, Memphis.

The First National Bank of Ashford, Ala., capital \$25,000, has been approved. The organizers are Roy D. Clarke, Columbia, Ala., and F. A., A. M., E. M. and J. C. Grimsley.

Articles of incorporation for the Bank of Oakland at Oakland, Ky., capital \$15,000, have been filed by E. A. Shobe, J. B.

Amos, W. S. Mansfield, W. T. Elora and D. C. Amos.

The Bank of Wewoka at Wewoka, I. T., capital \$25,000, is reported to have begun business with A. G. Mayhue, president; R. L. Thurmond, vice-president; W. J. Ryan, cashier.

The Metropolitan Investment Co. of Little Rock, Ark., capital \$10,000, has filed articles of incorporation. The incorporators are R. G. Thomas, H. E. Cunningham and S. M. Powell.

The Finerty State Bank of Sentinel, O. T., capital \$10,000, has been authorized to begin business with M. C. Finerty, president; E. P. Finerty, vice-president, and C. C. Finerty, cashier.

The Prague National Bank of Prague, O. T., has been approved; capital \$25,000. The organizers are A. P. Slover, Prague, O. T.; C. C. Bush, F. R. Vlasak, R. H. Mansur and R. G. Casey.

The Bank of South Hill at South Hill, Va., it is reported, contemplates opening a branch bank at Brodnax, Va. It is also stated that banks are to be established at Skelton and Marengo, Va.

The Farmers and Merchants' Bank of Mulberry, Ark., capital \$25,000, will, it is said, soon begin business with W. G. Wagner, president; J. M. O'Bar, vice-president, and S. B. Hawkins, cashier.

The Syndicate Trust Co. of St. Louis, Mo., capital \$1,000,000, has been incorporated by George T. Trower, W. J. Holbrook, E. W. Banister, J. D. Perry Francis and Alexander R. Russell.

The Farmers' and Mercantile Bank of Weakley county, Tennessee, capital \$50,000, has been incorporated by H. H. Lovelace, J. D. Hall, S. H. Hall, G. W. Hall, T. M. Ryan and T. H. Farmer.

The Mechanics' Perpetual Building and Loan Association is reported being organized at Greenville, S. C., William Goldsmith, Jr., Palmetto Building, receiving subscriptions to the capital stock.

The Forsyth Banking & Trust Co. of Kernersville, N. C., capital \$50,000, has been incorporated by J. M. Guyer, W. C. Ashworth, Kernersville; C. M. McKaughan, Winston-Salem, and others.

Application has been made by J. Arthur Nelson, Brent Waters, Thomas H. Fitchett, J. H. Bascom Jackson and Clayton N. Triplett to incorporate the West Baltimore Bank of Baltimore, Md.; capital \$25,000.

The Farmers and Merchants' Bank of Waukomis, O. T., capital \$10,000, has been granted a charter. The incorporators are A. C. Richardson, J. C. Vance and A. H. Drew. It will open on April 1.

It is reported that N. T. Ritch, C. L. Peek and J. G. Alvarez propose organizing the Starke Improvement Co. at Starke, Fla., with \$10,000 capital to conduct a building and loan association business.

The People's National Bank of Wapauka, I. T., has been authorized to begin business with \$25,000 capital; E. J. Ball, president; E. O. Loomis, vice-president and cashier; William M. Dunn, vice-president.

The MANUFACTURERS' RECORD is informed that the Lamar County Bank is to establish a branch bank at Sumrall, Miss., to begin operation about April 1. Vance R. McDonald is cashier of the Lamar Bank.

The Bank of Wallace at Wallace, N. C., capital \$50,000, has been granted a charter. The organizers are S. A. Boney, R. T. Sheffield, Jacob Powell, E. C. Boney, Paisley Boney, R. B. Colwell and D. L. Wills.

The Farmers and Merchants' National Bank of Knox City, Texas, capital \$25,000, has been approved. The organizers are J. B. Jones, R. G. Fowlkes, E. T. Fenn, K. W. Davis, Sam Anderson and R. D. Goree.

TABLE OF CONTENTS.

EDITORIAL:	Page
Joseph Buckner Killebrew.....	245
Cotton.....	245
For President—Stuyvesant Fish.....	245
Railroads Seeking the Gulf Coast.....	246
Fuel from the Farm.....	246
Where Population Grows.....	247
Texas Iron Industry.....	247
The Cotton Movement.....	247
Nullifying Progress.....	247
Gulfport.....	247
Enterprise.....	247
Havana's Electric Service.....	247
Lead and Zinc Activity.....	247
West Virginia Roads.....	248
The Machinery Lenders.....	248
In Coal Creek Basin.....	249
Fluor-spar Deposits in England.....	249
Cement Possibilities of the South—II.....	249
Bonds for Waterways Improvements.....	250
Big Sandy Improvement.....	251
Black Band Coal.....	251
Paper from Rice Straw.....	251
Georgetown Industries.....	251
For Engineers and Builders.....	251
Kentucky-Tennessee Oil Fields.....	252
The Iron and Metal Trades.....	252
Southern Hardware Jobbers.....	252
FOREIGN LETTERS:	
A Voice from Japan.....	252
Vehicles for Colombia.....	252
Exports for Smyrna.....	252
Grain for Bremen.....	252
Wood Pulp in Holland.....	252
Decorative Paints and Papers.....	252
Iron for Turkey.....	252
Has Continental Connections.....	252
RAILROADS:	
Big Car Shop Proposed.....	253
Coal to the Lakes.....	253
Northeast Texas Extension.....	253
Santa Fe in Texas.....	253
New Equipment.....	253
Fayetteville to Sileam Springs.....	253
Chicago to Evansville.....	253
Chattanooga Railways Deal.....	253
Kansas City Southern Plans.....	253
Poor's Railroad Directory.....	253
Vera Cruz Terminals.....	253
Railroad Notes.....	253
TEXTILES:	
New England Mill Men.....	254
To Continue the Madison Plant.....	254
The Magnet Knitting Mills.....	254
The Pelham Enlargement.....	254
The Pioneer Cotton Mill.....	254
Hosiery Manufacturers.....	254
Proposed Silk Mill.....	254
The Whittier Mills.....	254
The Rome Hosiery Mills.....	254
To Install 7000 Spindles.....	254
Trenton Cotton Mills.....	254
Textile Notes.....	254
Cottonseed Products.....	254
PHOSPHATES:	
Large Fertilizer Plant.....	254
Virginia-Carolina Chemical Co.....	254
Jefferson Fertilizer Co.....	254
Fish Fertilizer Factory.....	254
LUMBER:	
North Carolina Pine Association.....	255
Lumber for France.....	255
Acquires Big Timber Holdings.....	255
Stave and Lumber Plant.....	255
Timber-Land Development.....	255
Buyers Big Timber Tract.....	255
Shipment of Barrel Hoops.....	255
Retail Lumber Dealers.....	255
Lumber for Sabine Channel.....	255
Big Mill Nearing Completion.....	255
Alabama Lumbermen.....	255
Lumber Notes.....	255
MINING:	
Complete Organization.....	255
Two West Virginia Companies.....	255
Coal-Lands Development.....	255
Big Purchase.....	255
Steam Coal Wanted.....	255
MECHANICAL:	
New Reinforcement for Concrete (Ill.).....	256
The United Concrete Mixer (Illus.).....	256
The Ralston Steel Underframe (Illus.).....	257
Myers' Latest Door-Hanger (Illus.).....	257
Southern Ice Manufacturers.....	257
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	258
Building Notes.....	258
Railroad Construction.....	258
Machinery Wanted.....	258
Mexico.....	257
Industrial News of Interest.....	257
Trade Literature.....	258
FINANCIAL NEWS:	
Review of the Baltimore Market.....	259
Securities at Baltimore.....	259
Southern Cotton-Mill Stocks.....	259
United States Steel.....	270
Useful to Investors.....	270
Bank Reports.....	270
New Corporations.....	270
New Securities.....	270
Financial Notes.....	35

The Lookout Insurance Co. of Chattanooga, Tenn., capital \$5000, has made application for a charter. The incorporators are D. A. Hanson, W. M. Smith, W. P. Landon, W. A. Thompson and H. N. Hutcheson.

The Frederick National Bank of Frederick, O. T., capital \$25,000, has organized with the following officers: W. E. Weathers, president; G. S. Hawkins and C. G. Durand, vice-presidents; Guy S. Weathers, cashier.

The Bank of Roper at Roper, N. C., capital \$20,000, has elected the following officers: T. W. Blount, Roper, N. C., president; H. G. Whitehead, Norfolk, Va., vice-president; W. S. Davenport, Mackey's Ferry, N. C., cashier.

[For Additional Financial News, See Pages 34 and 35.]

100